Technical Information

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Dipropylene Glycol Care

Water-miscible, low-volatility solvent and humectant for applications in cosmetics

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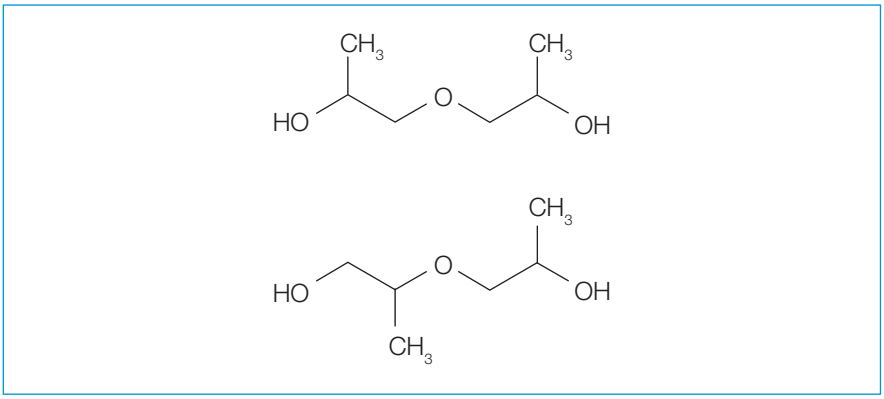
Nature

Mixture of isomeric 1,2-dipropylene glycol ethers.

Structural formula



CAS-No.

25265-71-8

PRD-No.

30175430

Specification

See separate document: “Standard Specification” available via BASF’s WorldAccount: https://worldaccount.basf.com (registered access).

Properties

Dipropylene glycol is a condensation product of 1,2-propylene glycol. It is a clear, colorless, low-volatility, almost odorless, oily liquid that is miscible with common organic solvents and water. Organic solvents with which it is immiscible or not freely miscible are aliphatic and terpene hydrocarbons.
It is less hygroscopic than diethylene and ethylene glycols and less volatile than ethylene glycol.

Physical data

The following physical data refer to the pure solvent and are not binding for the product that we place on the market.

Molar mass	134.17 g/mol
Boiling point (at 1013 mbar)	228.6 °C
Solidification point (at 1013 mbar)	-40 °C

Analytical methods

Gas chromatography

Reliable results for the gas chromatographic assay can be obtained in practice under the following conditions.

Column	30-m fused silica capillary column DB wax (= crosslinked polyethylene glycol)	
	Film thickness	0.25 µm
	Inner diameter	0.25 mm
Temperatures	Column heater	90 °C; for 5 min, isothermal
		90 – 220 °C; 6 °C/min
		200 °C; for 5 min, isothermal
	Injector	250 °C
	FID	250 °C
Carrier gas	Helium	pressure 40 kPa
	Split	60 ml/min
	Septum flush	4 ml/m
Sample	0.2 µl injected direct	
Evaluation	Percentage area method (standardized at 100% with due allowance for the water fraction)	

Applications

Examples of potential applications for dipropylene glycol are submitted below, but the list is by no means complete.

- Humectant in applications where particular value is attached to maintaining the moisture content at a constant value regardless of fluctuations in temperature and atmospheric humidity.
- Solubilizer in water-in-oil systems.
- Additive for extractants, e.g. in the separation of aliphatic and aromatic hydrocarbons.

Storage

Dipropylene glycol does not attack the metals mostly used in tank construction and can be stored in normal carbon steel tanks and drums. We advise against the use of galvanized containers.

Pumps
Cast-iron and steel centrifugal pumps with a simple slip-seal, e.g. Europac 600/ SATGG*, are suitable. The type of cast iron and steel depends on the pressure rating.

Flange seals
An example of a suitable material for seals is chemical-resistant Klingerit®**. Polytetrafluoroethylene (PTFE) is resistant to dipropylene glycol, and the suitability of other plastics must be verified by experiment before they are taken into use.

* Manufacturer: Pacific, Wietz & Co., Flaspoete 101, 44388 Dortmund-Lütgendortmund, Germany.
** Manufacturer: Klinger, 66510 Idstein/Taunus, Germany.

Shelf life

Dipropylene Glycol Care is stable for at least 1 year if stored in the original sealed containers in a dry place at room temperature.

Safety Data Sheet

A Safety Data Sheet is available.

Labelling

In the light of the information at our disposal, dipropylene glycol is not a hazardous industrial substance in the sense of the EEC "Guidelines on Classification and Labelling".

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