

# Technical Data Sheet

## POLYGLYKOL D 21/300

Base oil component for industrial applications

<b>Composition</b>	random ethylene oxide/propylene oxide copolymer $H(OCH_2CH_2)_n(OCH_2CHCH_3)_m$ OH n:m = 2:1
<b>Product properties <sup>1</sup></b>	
<b>Appearance (20°C)</b>	Clear viscous liquid
<b>Color index [APHA] EN 1557</b>	Max. 50
<b>Refractive index (20°C) DIN 51432</b>	Approx. 1.460 - 1.464
<b>Molecular weight</b>	Approx. 3500 g/mol
<b>Water content DIN 51777</b>	Max. 0.3 %
<b>pH value (10% w/w in water) DIN EN 1262</b>	Approx. 5.0 – 7.0
<b>Contact angle V2A steel (5% in aq.*)</b>	Approx. 55.9 °
<b>Surface tension (5% in aq. **)</b>	Approx. 49.7 mN/m
<b>Density (20°C) DIN 51757</b>	Approx. 1.065 – 1.085 g/cm <sup>3</sup>
<b>Viscosity (40°C) DIN 51562</b>	Approx. 458 mm <sup>2</sup> /s
<b>Viscosity (100°C) DIN 51562</b>	Approx. 79 mm <sup>2</sup> /s
<b>Viscosity index ASTM D2270</b>	Approx. 255
<b>Cloud point (1% in aq.)</b>	Approx. 76°C
<b>Cloud point (5g in 25g 25% BDG)</b>	Approx. 65°C
<b>Pour point ISO 3016</b>	Approx. -38°C
<b>Flash point DIN 51376</b>	Approx. 250°C
<b>Ignition temperature DIN 51794</b>	Approx. 375°C
<b>Sodium / potassium content</b>	Max. 10 ppm
<b>Four ball test DIN 51350/3B (60min. / 300N)</b>	Approx. 0.6 – 0.3 mm
<b>Seizure / welding load</b>	Approx. 1400 / 1800 N
<b>FZG load stage DIN 51354</b>	Approx. >12

<sup>1</sup> These characteristics are for guidance only and not to be taken as product specifications. The tolerances are given in the product specification sheet. For further product properties, specifications, safety and ecological data, please refer to the MSDS.

\*) Contact angle of water on V2A steel: 64°

\*\*) Surface tension of water: 71.6 mN/m

**Profile****Product properties**

Polyglykol D 21/300 is a clear neutral viscous liquid at room temperature. Polyglykol D 21/300 is soluble in water and polar organic solvents like acetone or methanol at room temperature. It is insoluble in pure hydrocarbons. Polyglykol D 21/300 displays a very low solidification point of  $-38^{\circ}\text{C}$  and no evaporation loss even at temperatures as high as  $100^{\circ}\text{C}$ . The viscosity of Polyglykol D 21/300 corresponds to ISO VG 460 class. The hygroscopy of polyglycols increase with the EO ratio in the polymer.

**Application**

Based on their physical and chemical characteristics D 21-type polyglycols are used for a wide variety of applications.

Fields of industrial application:

- Base oil component for high performance lubricants with low friction coefficients, excellent wear properties and good thermal stability
- Lubricant for high pressure compressors
- Water soluble, lubricating component of metalworking fluids, e.g. fully synthetics
- Component of auxiliaries for leather and textile processing
- Defoamer for food and non-food applications
- Reactive alcohol component in chemical reactions
- Solvent and humectant for dyes and inks
- Heat transfer medium

**Sustainability**

Polyglykol D 21/300 is readily biodegradable. It is included in the LuSC-list (Lubricant Substance Classification list) and meets the EU Ecolabel criteria for lubricants (Commission decision 2018 / 1702 / EU).

**Safety**

Please see Material Safety Data Sheet before handling the material.

**Storage behaviour**

When stored in a cold, dry place in a closed container Polyglykol D 21/300 can be kept for at least two years.

CLARIANT INTERNATIONAL LTD

Rothausstrasse 61  
4132 Muttenz  
Switzerland

BUSINESS UNIT INDUSTRIAL &  
CONSUMER SPECIALTIES

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