CLARIANT

Technical Data Sheet
POLYGLYKOL D 21/150

CLARIANT INTERNATIONAL LTD

Rothausstrasse 61
4132 Muttenz
Switzerland

BUSINESS UNIT INDUSTRIAL & CONSUMER SPECIALTIES

www.ics.clariant.com
www.clariant.com

Base oil component for industrial applications

Composition	random ethylene oxide/propylene oxide copolymer $H(OCH_2CH_2)_n(OCH_2CHCH_3)_mOH$ n:m = 2:1
Product properties [1]	
Appearance (20°C)	Clear viscous liquid
Color index [APHA] EN 1557	Max. 80
Refractive index (20°C) DIN 51432	Approx. 1.460 -1.464
Molecular weight	Approx. 2700 g/mol
Water content DIN 51777	Max. 0.3 %
pH value (10% w/w in water) DIN EN 1262	Approx. 5.0 – 7.0
Contact angle V2A steel (5% in aq.*)	Approx. 34.6 °
Surface tension (5% in aq. **)	Approx. 48.4 mN/m
Density (20°C) DIN 51757	Approx. 1.065 – 1.085 g/cm³
Viscosity (40°C) DIN 51562	Approx. 225 mm²/s
Viscosity (100°C) DIN 51562	Approx. 40 mm²/s
Viscosity index ASTM D2270	Approx. 232
Cloud point (1% in aq.)	Approx. 85°C
Cloud point (5g in 25g 25% BDG)	Approx. 71°C
Pour point ISO 3016	Approx. -35°C
Flash point DIN 51376	Approx. 250°C
Ignition temperature DIN 51794	Approx. 375°C
Sodium / potassium content	Max. 10 ppm
Four ball test DIN 51350/3B (60min. / 300N)	Approx. 0.59 mm
Seizure / welding load	Approx. 1500 / 1800 N
FZG load stage DIN 51354	Approx. >12

[1] 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

CLARIANT INTERNATIONAL LTD

Rothausstrasse 61
4132 Muttenz
Switzerland

BUSINESS UNIT INDUSTRIAL & CONSUMER SPECIALTIES

www.ics.clariant.com
www.clariant.com

Profile

Product properties

Polyglykol D 21/150 is a clear, neutral viscous liquid at room temperature. Polyglykol D 21/150 is soluble in water and polar organic solvents like acetone or methanol at room temperature. It is insoluble in pure hydrocarbons. Polyglykol D 21/150 displays a very low solidification point of –35°C and no evaporation loss even at temperatures as high as 100°C. The viscosity of Polyglykol D 21/150 corresponds to ISO VG 220 class. The hygroscopy of Polyglycols increase with the EO ratio in the polymer.

Thermo-oxidative degradation

To increase the stability against thermo-oxidative degradation, Lubricant Additive 1655 can be used:

Table 2

Addition of LA 1655	Temperature 5% mass loss	Temperature 10% mass loss	Center point T	Inflection point T	Residue
	°C	°C	°C	°C	%
none	221.63	236.10	269.63	283.50	0.0087
+ 3% LA 1655	284.42	289.87	310.84	312.00	1.9100

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

CLARIANT

CLARIANT INTERNATIONAL LTD

Rothausstrasse 61
4132 Muttenz
Switzerland

BUSINESS UNIT INDUSTRIAL & CONSUMER SPECIALTIES

www.ics.clariant.com
www.clariant.com

Sustainability

Polyglykol D 21/150 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 21/150 can be kept for at least two years.