Technical Information
Intermediates

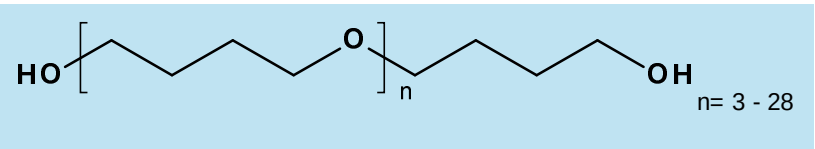
PolyTHF®

Description

Synonyms

Polytetrahydrofuran
PTHF
Polytetramethylene ether glycol PTMEG
PTMG
Polybutylene glycol

Chemical Structure



CAS No.

25190-06-1

Alpha-hydroxy-omega-hydroxypoly(oxy-1,4-butanediyl)

Application

PolyTHF® is a hygroscopic polymer made up of linear diols with a backbone of repeating tetramethylene units which are connected by ether linkages. The chains are capped with primary hydroxyl units and are produced by polymerizing tetrahydrofurane.

BASF's PolyTHF® is an important intermediate in manufacturing thermoplastic polyurethane elastomer with applications in various industries such as textile, artificial leather, coating, adhesives, automotive and industrial applications.

Packaging

Bulk Tank container
Drum 200kg steel drum; packaging specification available on request

Product Grades

PolyTHF 250 techn.
PolyTHF 650
PolyTHF 1000 (S)
PolyTHF 1400 (S)
PolyTHF 1800 (S)
PolyTHF 2000
PolyTHF ® 1000 Ccycled™ PostC2
PolyTHF 2000 – Ccycled™ PostC2
PolyTHF 1000 (S) BMBcert
PolyTHF 1800 (S) BMBcert
PolyTHF 2000 BMBcert
PolyTHF 1000 (S) BMBcert I
PolyTHF 1800 BMBcert I
PolyTHF 2000 BMBcert I

Average molecular weights are determined based on OH numbers. Please enquire for further molecular weights.

All PolyTHF designations are typically stabilized with 200 – 350 ppm of BHT (3.5-Di-tert. Butyl-4-hydroxytoluene). The letter S following a molecular weight refers to an additional dotation with acid.

Form & Solubility

Liquid (lower molecular weights) to white, waxy solid at room temperature. Will melt to yield a colorless, clear liquid. Soluble in many conventional organic solvents. Practically insoluble in water.

REACH

Polymers do not have to be registered under REACH (EC 1907/2006, Article 2 (9)).

The Monomer (THF) is registered by BASF according to (EC 1907/2006, Article 6 (3)). REACH Reg.-No. 01-2119444314-46-XXXX

Specifications

Detailed specifications for each product are available from BASF.

Physical properties

Generally

The data on physical properties presented below has been compiled from our own measurements or taken from the literature. The values quoted are not binding for our commercial products.

PolyTHF 250 technical grade

Softening point – 14 °C (DIN 53180)
Flash point 180 °C (DIN 51376)

Density (DIN 51757)	**°C**	**20**	**30**	**40**	**60**	**75**	**100**
	g/cm3	1.000	0.996	0.991	0.980	0.970	0.950
Viscosity (DIN 51562)	**°C**	**20**	**30**	**40**	**60**	**75**	**100**
	mPa s	158	94	60	25	17	10

PolyTHF 650 S

Softening point 25 °C (DIN 53180)
Flash point 215 °C (DIN 51376)

Density (DIN 51757)	**°C**	**30**	**40**	**60**	**75**	**100**
	g/cm3	0.983	0.977	0.964	0.953	0.934
Viscosity (DIN 51562)	**°C**	**30**	**40**	**60**	**75**	**100**
	mPa·s	341	209	100	55	27

PolyTHF 1000 (S)

Softening point 26 °C (DIN 53180)
Flash point 240 °C (DIN 51376)

Density (DIN 51757)	**°C**	**30**	**40**	**60**	**75**	**100**
	g/cm3	0.982	0.975	0.962	0.952	0.934
Viscosity (DIN 51562)	**°C**	**30**	**40**	**60**	**75**	**100**
	mPa·s	440	288	129	79	46

PolyTHF 1400

Softening point 26 °C (DIN 51007)
Flash point 240 °C (DIN 51376)

Density (DIN 51757)	**°C**	**30**	**40**	**60**	**75**	**100**
	g/cm3	0.982	0.975	0.961	0.952	0.937
Viscosity (DIN 51562)	**°C**	**30**	**40**	**60**	**75**	**100**
	mPa·s	1051	580	243	141	78

PolyTHF 1800

Softening point 27 °C (DIN 53180)
Flash point 244 °C (DIN 51376)

Density (DIN 51757)	**°C**	**40**	**60**	**75**	**100**
	g/cm3	0.974	0.961	0.950	0.934
Viscosity (DIN 51562)	**°C**	**40**	**60**	**75**	**100**
	mPa·s	1000	439	262	131

PolyTHF 2000

Softening point 35 °C (DIN 53180)
Flash point 246 °C (DIN 51376)

Density (DIN 51757)	**°C**	**40**	**60**	**75**	**100**
	g/cm3	0.975	0.960	0.951	0.934
Viscosity (DIN 51562)	**°C**	**40**	**60**	**75**	**100**
	mPa·s	1350	599	346	174

Further information

Please visit http://www.intermediates.basf.com/chemicals/spandex/index
For more information, please contact local BASF office.
The relevant MSDS as well as additional declarations can be obtained upon request from your sales representative directly.

Note

The safety data given in this publication is for information purposes only and does not constitute a legally binding Material Safety Data Sheet (MSDS).

Europe

BASF SE
Intermediates

67056 Ludwigshafen
Germany

www.basf.com