Diethylene glycol dibutyl ether

Technical Datasheet

Chemical Characterization

Diethylene glycol dibutyl ether
Di-(2-butoxyethyl)-ether
Dibutyl diglycol (DBDG)
Butyl diglyme

CAS-No.: 112-73-2
EINECS-No.: 204-001-9
Registrations: EINECS (Europe), TSCA (USA), AICS (Australian), DSL (Canada), ECL (Korea), PICCS (Philippines), ENCS (Japan), ASIA-PAC

Product Description

Diethylene glycol dibutyl ether is a clear, colorless liquid with a characteristic odor. It is miscible in any ratio with solvents such as ethanol, acetone, benzene, ether, and chlorinated hydrocarbons. It has little to no solubility in water and high molecular weight aliphatic hydrocarbons. The solvent features a low freezing point, high boiling point, and low viscosity. Diethylene glycol dibutyl ether is an excellent solvent for non-polar substances.
Diethylene glycol dibutyl ether as inert, aprotic, high boiling solvent has wide applicability in various types of cleaning formulations. Examples include grease, wax, and stain removers and special low-flammability non-aqueous cleaning systems for electronic equipment.
Diethylene glycol dibutyl ether is commonly used as a constituent in fluorocarbon-free soldering fluxes used to make semiconductor circuits. Therefore, diethylene glycol dibutyl ether finds application in the field of metal extraction, particularly for processes involving gold, palladium, platinum, uranium, and thorium. It is also used in non-aqueous battery electrolyte matrices.

Since diethylene glycol dibutyl ether has no reactive functional groups, solvates metal cations and exhibits excellent pH and thermal stability, it is frequently used as a solvent in organic and organometallic reactions, especially in Grignard reactions. For further informations about Glymes in Grignard reactions please request our technical bulletin.

Storage Advice

Diethylene glycol dibutyl ether is supplied in road tankers, rail tankers and polyethylene drums.

For further informations please refer to the safety data sheet.

Clariant Produkte (Deutschland) GmbH
Functional Chemicals Division
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65840 Frankfurt, Germany

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Technical Data

molar mass	g/mol	218
boiling point /1013 hPa (ASTM D1120)	°C	256
melting point (DIN 51583)	°C	-60
flash point (DIN 51755)	°C	120
ignition temperature (DIN 51794)	°C	190
density/20°C (DIN 51757)	g/cm³	0,883
kinematic viscosity (DIN 51562)	mm²/s	2,40 (20°C) 3,20 (10°C) 4,16 (0°C)
vapor pressure/20°C	mbar	0,02
surface tension/25°C	mN/m	27,0
refractive number n_D20 (DIN 51423, Teil 2)		1,4235
water absorption /20°C	% m/m	1,4
miscibility with water	% m/m	0,3

Physical Data

temperature °C	density g/cm³	dynamic viscosity mPa s	vapor pressure mbar	thermal conductivity W/m K	specific heat capacity kJ/kg K
0	0,899	3,44	0,0029	0,1499	2,0749
20	0,883	2,32	0,021	0,1465	2,1001
40	0,867	1,63	0,11	0,1431	2,1253
60	0,851	1,20	0,47	0,1397	2,1505
80	0,834	0,903	1,62	0,1363	2,1757
100	0,818	0,702	4,78	0,1329	2,2009
160	0,767	0,375	6,20	0,1227	2,2765
200	0,730	0,266	23,1	0,1159	2,3269

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