

Butyl diglyme (CAS: 112-73-2)

Diethylene Glycol Dibutyl Ether $\text{CH}_3(\text{CH}_2)_3\text{O}-(\text{CH}_2\text{CH}_2\text{O})_2-(\text{CH}_2)_3\text{CH}_3$

A polar aprotic glycol diether with active solvency and formulating versatility

Butyldiglyme has become a favorite reagent for Grignard reactions. The high boiling point increases safety while making the Grignard formation easy to start, and often increasing yield. The very low water solubility allows provides the ability remove impurities from organics by water extraction. Used as a solvent for organometallic reactions involving reductions, alkylations and in reactions involving alkali metals.

Physical Properties

Empirical Formula		$\text{C}_{12}\text{H}_{26}\text{O}_3$
Molecular Weight		218.34
Boiling Point	(°C 760 mm Hg)	256
Freezing Point	(°C)	-60.2
Specific Gravity	(20/20°C)	0.8814
Vapor Pressure	(mm Hg/ 20°C)	<0.01
Volatility	(n-butylacetate = 100)	<0.1
Viscosity	(cp 20°C)	2.4
Surface Tension	(dynes/cm 20°C)	27.0
Specific Heat	(cal/gm/°C)	0.495
Auto Ignition temp	(°C)	190
Heat of Vaporization	(K cal/mole)	12.0
Heat of Combustion	(K Cal/mole)	1823
Heat of Formation	(K cal/mole)	175
Flash Point	(°C, closed cup)	118
Refractive Index	(20°C)	1.4235
Appearance		Clear, Colorless
Odor		mild non-residual
Solubility at 25°C		
in water		0.3%
water in		1.4%

Reaction solvent

- For Grignard reactions
- For enhancing rates of nucleophilic substitution
- Enhances yield and selectivity for NaBH_4 reductions
- Extraction of organics from water
- Extract impurities from organic in butyl diglyme with water – then drain off water layer with contaminants

Features

- Aprotic
- High boiling point
- Water insoluble
- High solvency characteristics
- Powerful diluent & cleaner
- Excellent thermal and chemical stability

Gold Recovery

- Will extract Au(III) from aqua regia
- Allows gold recovery from alloys, mining residuals, or from electrode slime