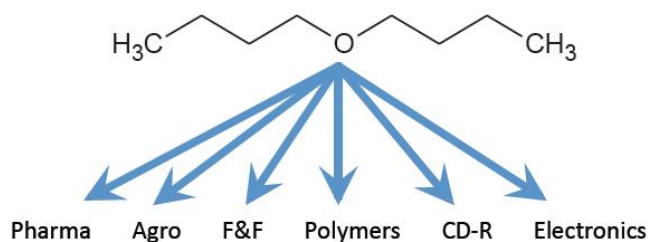


Di-n-Butyl Ether (DnBE)

A safer alternative to THF for Grignard reactions, and for other Organometallic chemistry

DnBE uses renewable carbon in manufacture to enhance your green profile, and help meet your eco-impact targets.



Properties

- Being less dense than water (0.769g/cm^3), it is an upper layer in those reactions involving a water quench/separation stage. Its flash point (25°C) is higher than some common solvents used such as Ethyl Acetate (-4°C), Toluene (6°C) and others (see table).
- Its relatively high boiling point compared to some other common separation solvents makes DnBE ideal for high temperature reactions where some of the other common separation solvents as above are much lower boiling.
- **DnBE** is a very good ether solvent with a very low solubility in water (0.03%). This hydrophobicity means the recovery/ recycling process is less troublesome than with other solvents.

Applications

- Powerful and cost effective solvent for Grignard Reactions. A common side reaction of Grignard Reagents that contain beta-H is reduction of substrate instead of addition. The use of DnBE can improve the yields of additive products compared to when THF is used.
- DnBE improves the yield of addition products. Small increases in yield can reduce overall solvent need and give a substantial commercial advantage.
- Good solvent for oils, Fats and natural and synthetic resins.
- Robust for use with organic acids and alkali's.
- Used in pharmaceutical API's such as 7-Amino-3-chlorocephalosporanic acid, Cefaclor, Guanidine Carbonate, L-Carnitine, Procarbazine and Agrochemicals such as Cyhexatin.
- Principal solvent for use in CD-R coating manufacture.
- Has over 23,000 references in Scifinder and is a key solvent used in over 300 patents.
- Used widely in Alkyl Lithium, Wittig and other organometallic reactions.

DnBE is an excellent choice of solvent both commercially and technically for synthetic reactions and manufacturing processes. Consideration of process aspects include

- Reactivity – low water and peroxide content.
- Process Temperature – Boiling point above 140°C .
- Safety – Flash point higher than other conventional solvents.
- Economics – Ease of recovery.

Please contact Chemoxy International Ltd or your Chemoxy local distributor for further information, samples and quotations. Please visit our website for further information and details of the full range of Chemoxy products.

Names	DnBE	THF	Diethyl Ether	MTBE	2 Methyl THF
Structure					
Molecular Formula	$\text{C}_8\text{H}_{18}\text{O}$	$\text{C}_4\text{H}_8\text{O}$	$\text{C}_4\text{H}_{10}\text{O}$	$\text{C}_5\text{H}_{12}\text{O}$	$\text{C}_5\text{H}_{10}\text{O}$
Molecular Weight	130.23	72.11	74.12	88.15	86.13
CAS	142-96-1	109-99-9	60-29-7	1634-04-4	96-47-9
Boiling Point	142.4°C	66°C	34.6°C	55.2°C	80.3°C
Freezing Point	-97.9°C	-108°C	-116°C	-109°C	-136°C
Density (g/cm^3)	0.769	0.888	0.713	0.704	0.854
Solubility in Water (20°C)	0.03%	Miscible	6.9%	2.6%	14%
Flash Point	25°C	-17°C	-45°C	-10°C	-12°C