

1,4 Butanediol (1,4 BDO)

Product Description

1,4 BDO is a colorless viscous liquid (at or above room temperature) or white solid (below room temperature).



Formula C₄H₁₀O₂
Molecular weight 90.1
PRD number 30041337
CAS registry number 110-63-4

Major Industrial Uses

1,4 BDO is used in both the hard and soft segments of polyurethanes: in the hard segment as a chain extender and in the soft segment as polyesterdiols such as polybutylene adipate glycol.

1,4 BDO is used to make a variety of esters, including monomeric plasticizers, the engineering plastic polybutylene terephthalate (PBT) and low molecular weight polyester glycols. The polyester glycols are used as soft segments in polyurethanes and are made by reacting 1,4 BDO with various dibasic acids such as adipic and sebacic acid.

In addition to its use in the soft segments of polyurethanes, 1,4 BDO is used in the hard segments of some polyurethanes, particularly those made with MDI or TDI. In the hard segment or as a crosslinker, 1,4 BDO

produces a good balance between hardness and low temperature flexibility.

Precautions

Before using 1,4 BDO in any application, the user should review and understand the Safety Data Sheet.

Specifications

1,4 BDO Specifications	
Color (APHA)	10 (max.)
Water	500 ppm (max.)
Carbonyl number	0.10 mg KOH/g (max.)
Assay	99.5% by weight (min.)

Typical Properties

1,4 BDO Properties	
Molecular weight	90.1 dalton
Hydroxyl number (calculated)	1240 – 1246 mg KOH/g
Viscosity @ 25°C	72 cP (mPa·s)
Density @ 25°C	1.02 g/mL
Melting point (freezing point)	20°C
Boiling point	228°C

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