

Technical Indicators/技术指标

1,4-Butanediol BDO CAS110-63-4

Overview:

Chinese name: 1,4-Butanediol (BDO)

Alias: Butylene glycol 4-butanediol 1,4-butanediol 4-Dihydroxybutane
1,4-dihydroxybutane

English Name: 1,4-Butylene glycol~Tetramethylene glycol; tetramethylene glycol;
1,4-Butylene glycol; 75% 1,4-BUTANEDIOL; butane-1,4-diol; butane-1,1- diol

1,4-Butylene glycol (Butane-1,4-diol) is an organic substance with the molecular formula $C_4H_{10}O_2$ and molecular weight 90.12. It is a colorless or light yellow oily liquid in appearance. Flammable, freezing point $20.1^{\circ}C$, refractive index 1.4461. soluble in methanol, ethanol, acetone, slightly soluble in ether. It is hygroscopic and has a bitter odor, but slightly sweet in the mouth.

Used as solvent and humidifier, also used in plasticizer, drug, polyester resin, polyurethane resin, etc.

Molecular formula(Formula): $C_4H_{10}O_2$

Molecular Weight(Molecular Weight): 90.12

CAS No. : 110-63-4

Product Name: Butanediol 4-butanediol 1,4-butanediol 4-Dihydroxybutane
1,4-dihydroxybutane

Molecular structure: See figure

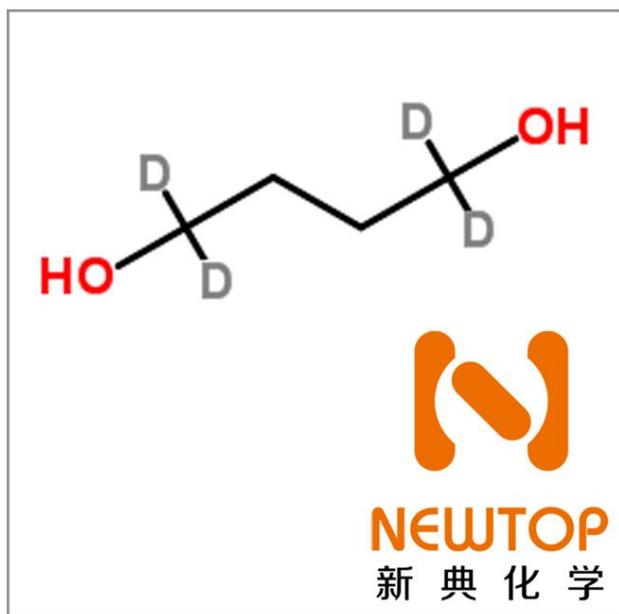
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CAS No. : 110-63-4

EINECS No. : 203-786-5

MDL No. MFCD00002968



新典化学材料(上海)有限公司

Newtop Chemical Materials (Shanghai) Co.,Ltd.



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Physical and chemical properties:

Colorless, oily liquid, not easy to ignite. In contact with high heat, open flame or oxidizer, there is a risk of combustion.

Freezing point $\leq 19.0^{\circ}\text{C}$

Mass fraction of 1,4-butanediol $\geq 99.5\%$

Bromine value $\leq 0.10\%$

Refractive index $1.445 \sim 1.446$

Water content $\leq 0.10\%$

Hydroxyl value $\leq 0.2\%$

Chromaticity (platinum a cobalt color) ≤ 25

Preparation:

1. Acetylene method: 1,4-butanediol is made by reacting acetylene and formaldehyde in the presence of Cu-Bi catalyst at 98kPa and $80-95^{\circ}\text{C}$. The latter is then catalyzed by nickel skeleton and hydrogenated at 1.372-2.06 MPa, $50-60^{\circ}\text{C}$ to 1,4-butanediol, followed by further catalytic hydrogenation with Ni-Cu-Mn/Al₂O₃ (13.7-20.6 MPa, $120-140^{\circ}\text{C}$) to 1,4-butanediol, which is then purified by distillation after removal of metal ions by ion exchange resin. 2. Maleic Anhydride Hydrogenation method 3. Butadiene method Acetyl oxidation reaction of 1,3-butadiene with acetic acid and oxygen to produce 1,4-diacetoxy-2-butene, then hydrogenated and hydrolyzed to make 4. 1,4-dichlorobutene method 1,4-dichlorobutene is an intermediate product of the process of producing chlorobutadiene from butadiene, which is used as raw material, hydrolyzed and hydrogenated to obtain 1,4-butanediol.

Uses:

1,4-butanediol is an important organic chemical and fine chemical raw material, and is the basic raw material for the production of polybutylene terephthalate (PBT) engineering plastics and PBT fiber; PBT plastic is one of the five most promising engineering plastics. 1,4 butanediol is the main raw material for the production of tetrahydrofuran, which is an important organic solvent. The polytetramethylene glycol ether (PTMEG) obtained after polymerization is the basic raw material for the production of high-elasticity spandex (Lycra fiber). Spandex is mainly used in the production of high-elasticity knitted products such as advanced sportswear and swimwear.

γ -butyrolactone, a downstream product of 1,4-butanediol, is the raw material for the production of 2-pyrrolidone and N-methylpyrrolidone products, from which a series of high value-added products such as vinylpyrrolidone and polyvinylpyrrolidone are derived, which are widely used in pesticides, pharmaceuticals and cosmetics.

Applications:

Used as solvent and humidifier, also used to make plasticizer, drugs, polyester resin, polyurethane resin, etc.

Storage and transportation:

新典化学材料(上海)有限公司

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Should be sealed and stored in a dry, cool and ventilated warehouse

Package:

200KG/drum Storage: It is recommended to store in dry and cool area with proper ventilation. Please fasten the lid as soon as possible after the original packaging to prevent the mixing of other substances such as water and other substances from affecting the product performance. Do not inhale dust and avoid skin and mucous membrane contact. Smoking, eating and drinking are prohibited in the workplace. After work, shower and change clothes. Store contaminated clothes separately and wash them before use. Maintain good hygiene habits.