Unilong Industry Co., Ltd

Add: No.2000 Shunhua Rd, High-Tech Zone , Jinan City, Shandong Province, China

Technical Data Sheet

Product Information

Product Name: 1,3-BUTANESULTONE
Molecular Formula: C4H8O3S
Molecular Weight: 136.17
CAS No.: 3289-23-4

1. Product Description

1,3-Butanesultone is a cyclic organic compound classified as a sultone—a molecule containing a cyclic ester structure with a sulfur atom (replacing the usual carbonyl carbon in esters). Its chemical formula is $C_4H_8O_3S$, and it features a four-carbon alkane chain forming a ring with a sulfonyl group (-SO_2-).A colorless to pale yellow liquid at room temperature, with a characteristic odor.

2. Physical and Chemical Properties

Property	Value
Appearance	A colorless to pale yellow liquid
Melting Point	~-1°C
Boiling Point	293°C – 295°C
Water Content:	≤0.1% (max)

3. Main Applications

1,3-Butanesultone is primarily valued for its ability to introduce sulfonate groups (-SO_3^-) into molecules, which enhances properties like water solubility and ionic

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conductivity. Its key uses include:

1,Electrolyte Additive: A critical component in lithium-ion batteries and supercapacitors. It forms a stable protective film on electrode surfaces (known as the Solid Electrolyte Interphase, SEI), improving battery safety, cycle life, and performance.

2，Chemical Intermediate: Used in synthesizing surfactants, ion-exchange resins, and specialty polymers. The sulfonate groups it introduces boost the water solubility and ionic character of these materials, making them suitable for detergents or water-treatment applications.

3，Pharmaceutical & Agrochemical Synthesis: Occasionally employed to modify drug molecules or pesticide active ingredients, enhancing their bioavailability or target specificity.

4. Packaging & Storage

200kg/drum to prevent moisture absorption and contamination.

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