

Certificate of Analysis

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Product Name: L-Buthionine sulfoximine

Catalog No.: 6954

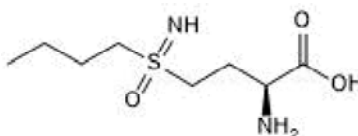
Batch No.: 1

CAS Number: 83730-53-4

IUPAC Name: (2S)-2-Amino-4-(S-butylsulfonimidoyl)butanoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₈H₁₈N₂O₃S
Batch Molecular Weight: 222.3
Physical Appearance: White solid
Solubility: water to 100 mM
DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = +31.6 (Concentration = 1, Solvent = 1N HCl)
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	43.22	8.16	12.6
Found	43.43	8.21	12.5

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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CAS Number: 83730-53-4

IUPAC Name: (2S)-2-Amino-4-(S-butylsulfonylimidoyl)butanoic acid

Description:

Irreversible γ -glutamylcysteine synthetase (γ -GCS) inhibitor; depletes glutathione levels by inhibiting synthesis. Induces ferroptosis in vitro.

Physical and Chemical Properties:

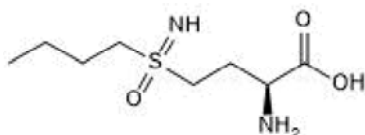
Batch Molecular Formula: C₈H₁₈N₂O₃S

Batch Molecular Weight: 222.3

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

water to 100 mM

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Yang *et al* (2014) Regulation of ferroptotic cancer cell death by GPX4. *Cell*. **156** 317. PMID: 24439385.

Griffith *et al* (1982) Mechanism of action, metabolism, and toxicity of buthionine sulfoximine and its higher homologs, potent inhibitors of glutathione synthesis. *J.Biol.Chem.* **257** 13704. PMID: 6128339.

Griffith & Meister (1979) Potent and specific inhibition of glutathione synthesis by buthionine sulfoximine (S-n-butyl homocysteine sulfoximine) *J.Biol.Chem.* **254** 7558. PMID: 38242.

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