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Product Information

Lithium chloride

SigmaUltra

Product Number **L4408**

Store at Room Temperature

Replacement for Product Code **43,137-0**

Product Description

Molecular Formula: LiCl

Molecular Weight: 42.39

CAS Number: 7447-41-8

Trace elemental analyses have been performed on the SigmaUltra lithium chloride. The Certificate of Analysis provides lot-specific results. SigmaUltra lithium chloride is for applications which require tight control of elemental content.

Lithium chloride is utilized in various manufacturing applications. It is used as an electrolyte for low temperature dry battery cells and as an oxidation catalyst. LiCl is a solubilizer for polyamides and cellulose when used with amide solvents, and is a chlorinating agent for steroid substrates. Other applications include the manufacture of mineral waters and pyrotechnics, and the soldering of aluminum.¹

A protocol that utilizes LiCl in large-scale plasmid DNA isolation without ultracentrifugation has been published.² LiCl is used in protein extraction and protein crystallization.^{3,4,5,6,7} It has also been utilized in the crystallization of other biological structures, including the vitamin B₁₂-RNA aptamer and the L-A virus particle.^{8,9} LiCl has been shown to inhibit the expression and secretion of insulin-like growth factor-binding protein-1 in H4-II-E cells.¹⁰

The use of LiCl in the synthesis of β -substituted α -amino acid derivatives has been described.^{11,12} A synthetic receptor has been reported that selectively extracts lithium from water, with LiCl as the lithium source.¹³

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (339 mg/ml, 8 M), yielding a clear, colorless solution. It is also soluble in alcohol, acetone, amyl alcohol, and pyridine.¹

References

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13. Piotrowski, H., and Severin, K., A self-assembled, redox-responsive receptor for the selective extraction of LiCl from water. *Proc. Natl. Acad. Sci. U.S.A.*, **99(8)**, 4997-5000 (2002).

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