

## Certificate of Analysis

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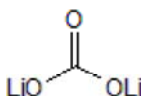
**Product Name:** Lithium carbonate  
**CAS Number:** 554-13-2  
**IUPAC Name:** Carbonic acid dilithium salt

**Catalog No.:** 4740      **Batch No.:** 1  
**EC Number:** 209-062-5

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:**  $\text{Li}_2\text{CO}_3$   
**Batch Molecular Weight:** 73.89  
**Physical Appearance:** White solid  
**Solubility:** water to 100 mM  
**Storage:** Store at RT

**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**Calcium (Ca):** 1.0 ppm  
**Sodium (Na):** 0.8 ppm  
**Potassium (K):** 1.2 ppm

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

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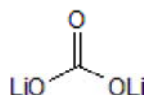
**Description:**

Mood stabilizer; thought to act by reducing catecholamine neurotransmitter concentration, through an effect on the Na<sup>+</sup>/K<sup>+</sup> ATPase pump. Effective in the treatment of bipolar disorder. Inhibits GSK-3 in vivo.

**Physical and Chemical Properties:**

Batch Molecular Formula: Li<sub>2</sub>CO<sub>3</sub>  
 Batch Molecular Weight: 73.89  
 Physical Appearance: White solid

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**  
 water 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:**

**Gould et al** (2004) *In vivo* evidence in the brain for lithium inhibition of glycogen synthase kinase-3. *Neuropsychopharmacology* **29** 32. PMID: 12942141.

**Lenox and Hahn** (2000) Overview of the mechanism of action of lithium in the brain: fifty-year update. *J.Clin.Psychiatry* **61** 5. PMID: 10826655.

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