



SIGMA-ALDRICH

3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

Sodium carbonate

Product Number **S 2127**
Store at Room Temperature

Product Description

Molecular Formula: Na_2CO_3
Molecular Weight: 106.0
CAS Number: 497-19-8
Synonym: soda ash

Sodium carbonate is a widely used reagent in industrial applications and in biochemistry and molecular biology research. Industrial uses include the manufacture of sodium salts, glass and soap, the manufacture of paper, the preparation of chemical pulps, and the bleaching of linen and cotton.¹

Sodium carbonate is used as a buffer component in such applications as chromatography, capillary electrophoresis, and enzyme catalysis.^{2,3,4} Sodium carbonate is widely used in the isolation of cell membranes, membrane proteins, and hydrophobic proteins.^{5,6,7,8,9} A protocol for the isolation of polyamines from cell culture media has been published.¹⁰

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, colorless solution. It is insoluble in alcohol.¹

Storage/Stability

It is advised to keep containers of sodium carbonate tightly sealed. An aqueous solution of sodium carbonate has a pH of 11.6. The aqueous dissolution of this product is an exothermic reaction.¹ Solutions should be stable for 1 year at room temperature. If precipitation occurs, gentle warming will redissolve the precipitate. Overheating the solution can decompose the carbonate.

References

1. The Merck Index, 12th ed., Entry# 8739.
2. Davidson, A. F., et al., Determination of naltrexone and its major metabolite, 6-beta-naltrexol, in human plasma using liquid chromatography with electrochemical detection. *J. Pharm. Biomed. Anal.*, **14(12)**, 1717-1725 (1996).
3. Farina, A., et al., Stability of reconstituted solutions of ceftazidime for injections: an HPLC and CE approach. *J. Pharm. Biomed. Anal.*, **20(3)** 521-530 (1999).
4. Ru, M. T., et al., Towards more active biocatalysts in organic media: increasing the activity of salt-activated enzymes. *Biotechnol. Bioeng.*, **75(2)**, 187-196 (2001).
5. Molloy, M. P., et al., Proteomic analysis of the *Escherichia coli* outer membrane. *Eur. J. Biochem.*, **267(10)**, 2871-2881 (2000).
6. Santoni, V., et al., Membrane proteomics: use of additive main effects with multiplicative interaction model to classify plasma membrane proteins according to their solubility and electrophoretic properties. *Electrophoresis*, **21(16)**, 3329-3344 (2000).

7. Fujiki, Y., et al., Isolation of intracellular membranes by means of sodium carbonate treatment: application to endoplasmic reticulum. *J. Cell Biol.* **93**, 97–102 (1982).
8. Santoni, V., et al., Large scale characterization of plant plasma membrane proteins. *Biochimie*, **81(6)**, 655-661 (1999).
9. Santoni, V., et al., Towards the recovery of hydrophobic proteins on two-dimensional electrophoresis gels. *Electrophoresis*, **20(4-5)**, 705-711 (1999).
10. Hawel, L., 3rd, and Byus, C. V., A streamlined method for the isolation and quantitation of nanomole levels of exported polyamines in cell culture media. *Anal. Biochem.*, **311(2)**, 127-132 (2002).

GCY/RXR 5/06

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.