



Product Information

Sodium acetate
Cell Culture Tested
Insect Cell Culture Tested

Product Number **S 5636**
Store at Room Temperature

Product Description

Molecular Formula: $C_2H_3O_2Na$
Molecular Weight: 82.03
CAS Number: 127-09-3
Synonym: Acetic acid, sodium salt

This product is cell culture tested (0.05 mg/ml) and insect cell culture tested (0.006 mg/ml). It is suitable for use in cell culture and insect cell culture applications.

Sodium acetate is a widely used reagent in molecular biology applications. It is used as a buffer in conjunction with acetic acid, in the buffering range of pH 3.6 - 5.6. Sodium acetate is used in the purification and precipitation of nucleic acids,^{1,2,3} protein crystallization,⁴ staining of gels in protein gel electrophoresis,⁵ and HPLC.⁶ Large scale applications of sodium acetate include its use as a retardant in plastics manufacturing, as a mordant in dyeing, and in the tanning of leather.⁷

A DNA microarray study of *E. coli* response to different levels of sodium acetate has been reported.⁸ Protein unfolding during reversed phase chromatography in the presence of varying salts, including sodium acetate, at different ionic strengths has been investigated.⁹ Sodium acetate has been used in conjunction with sodium carbonate to enhance the activation of freeze-dried subtilisin Carlsberg in organic solvents.¹⁰

Sodium acetate may be used as a substrate for acetokinase (acetate kinase).¹¹

Precautions and Disclaimer

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

Preparation Instructions

Sodium acetate is soluble in water (100 mg/ml), yielding a clear, colorless solution. The pH of a 0.1 M aqueous sodium acetate solution at 25 °C is 8.9.⁸

References

1. Evans, J. K., et al., Simultaneous purification of RNA and DNA from liver using sodium acetate precipitation. *BioTechniques*, **24**, 416-418 (1998).
2. Molecular Cloning: A Laboratory Manual, 3rd ed., Sambrook, J. F., et al., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 2001), pp. 6.26-6.27, A8.12-A8.16.
3. Wallace, D. M., Large- and Small-Scale Phenol Extractions, *Meth. Enzymol.*, **152**, 33-41 (1987).
4. Baniecki, M. L., et al., Adenovirus proteinase: crystallization and preliminary X-ray diffraction studies to atomic resolution. *Acta Crystallogr. D Biol. Crystallogr.*, **58** (Pt 9), 1462-1464 (2002).
5. Bjellqvist, B., et al., A nonlinear wide-range immobilized pH gradient for two-dimensional electrophoresis and its definition in a relevant pH scale. *Electrophoresis*, **14**, 1357-1365 (1993).
6. Clark, T. N., et al., Determination of 3'-azido-2',3'-dideoxyuridine in maternal plasma, amniotic fluid, fetal and placental tissues by high-performance liquid chromatography. *J. Chromatogr. B Biomed. Sci. Appl.*, **755(1-2)**, 165-172 (2001).
7. The Merck Index, 12th ed., Entry# 8711.
8. Polen, T., et al., DNA microarray analyses of the long-term adaptive response of *Escherichia coli* to acetate and propionate. *Appl. Environ. Microbiol.*, **69(3)**, 1759-1774 (2003).

9. McNay, J. L., et al., Protein unfolding during reversed-phase chromatography: II. Role of salt type and ionic strength. *Biotechnol. Bioeng.*, **76(3)**, 233-240 (2001).
10. 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).
11. Rose, I., Acetate Kinase of Bacteria (Acetokinase), *Meth. Enzymol.*, **1**, 591-595 (1955)

GCY/JRC 8/03

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.