

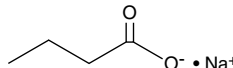
Product Information



Sodium Butyrate

Item No. 13121

CAS Registry No.: 156-54-7
Formal Name: butanoic acid, sodium salt
Synonym: Butyric Acid (sodium salt)
MF: C₄H₇O₂ • Na
FW: 110.1
Purity: ≥95%
Stability: ≥2 years at room temperature
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that sodium butyrate be stored as supplied at room temperature. It should be stable for at least two years.

Sodium butyrate is supplied as a crystalline solid. A stock solution may be made by dissolving the sodium butyrate in an organic solvent purged with an inert gas. Sodium butyrate is soluble in the organic solvent ethanol. The solubility of sodium butyrate in ethanol is approximately 5 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of sodium butyrate can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of sodium butyrate in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Sodium butyrate is a short chain fatty acid that has effects at the molecular, cellular, and tissue level. It has long been known as an inhibitor of histone deacetylases (HDACs).^{1,2} In cells, this alters the expression of a select group of genes containing butyrate response elements and may also involve Sp1/Sp3 binding sites.³ Sodium butyrate also induces growth arrest, differentiation and apoptosis in cancer cells, primarily through its effects on HDAC activity.⁴ In addition, it suppresses inflammation, in part by reducing the expression of pro-inflammatory cytokines, including interferon- γ , interleukin (IL)-6, and IL-1 β .⁵

References

1. Boffa, L.C., Vidali, G., Mann, R.S., *et al.* Suppression of histone deacetylation *in vivo* and *in vitro* by sodium butyrate. *J. Biol. Chem.* **253(10)**, 3364-3366 (1978).
2. Sealy, L. and Chalkley, R. The effect of sodium butyrate on histone modification. *Cell* **14**, 115-121 (1978).
3. Davie, J.R. Inhibition of histone deacetylase activity by butyrate. *J. Nutr.* **133**, 2485-2493 (2003).
4. Monneret, C. Inhibition of histone deacetylase activity by butyrate. *Eur. J. Med. Chem.* **40**, 1-13 (2005).
5. Joseph, J., Mudduluru, G., Antony, S., *et al.* Expression profiling of sodium butyrate (NaB)-treated cells: identification of regulation of genes related to cytokine signaling and cancer metastasis by NaB. *Oncogene* **23**, 6304-6315 (2004).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/13121

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery**.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy located on our website and in our catalog**.

Copyright Cayman Chemical Company, 12/05/2014

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com