

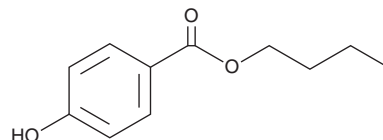
PRODUCT INFORMATION



Butyl 4-hydroxybenzoate

Item No. 36797

CAS Registry No.: 94-26-8
Formal Name: 4-hydroxy-benzoic acid, butyl ester
Synonyms: Butoben, Butyl *p*-hydroxybenzoate, Butyl *para*-hydroxybenzoate, Butylparaben, *p*-Hydroxybenzoic Acid butyl ester, NSC 8475, NSC 13164, Tegosept B
MF: $C_{11}H_{14}O_3$
FW: 194.2
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 258 nm
Supplied as: A solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Butyl 4-hydroxybenzoate is supplied as a solid. A stock solution may be made by dissolving the butyl 4-hydroxybenzoate in the solvent of choice, which should be purged with an inert gas. Butyl 4-hydroxybenzoate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of butyl 4-hydroxybenzoate in these solvents is approximately 16, 10, and 14 mg/ml, respectively.

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 butyl 4-hydroxybenzoate can be prepared by directly dissolving the solid in aqueous buffers. The solubility of butyl 4-hydroxybenzoate in PBS (pH 7.2) is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Butyl 4-hydroxybenzoate is a paraben that has been found in *Microbulbifer*.¹ It is active against the Gram-positive bacteria *B. subtilis* and *S. aureus*, yeast *C. molischiana* and *S. cerevisiae*, and fungi *A. niger* and *P. chrysogenum* (MICs = 75, 75, 60, 52, 55, and 45 mg/L, respectively). Butyl 4-hydroxybenzoate (300-1,000 μM) decreases the viability of, and ATP and glutathione (GSH) levels in, HepG2 and human dermal fibroblast neonatal (HDFn) cells.² It binds to estrogen receptors in a concentration-dependent manner and increases uterine weight in immature and ovariectomized rats.³ Butyl 4-hydroxybenzoate has been found in influent and effluent wastewater.⁴ Formulations containing butyl 4-hydroxybenzoate have been used as preservatives in cosmetics, food, and pharmaceuticals.

References

1. Peng, X., Adachi, K., Chen, C., *et al.* Discovery of a marine bacterium producing 4-hydroxybenzoate and its alkyl esters, parabens. *Appl. Environ. Microbiol.* **72**(8), 5556-5561 (2006).
2. Kizhedath, A., Wilkinson, S., and Glassey, J. Assessment of hepatotoxicity and dermal toxicity of butyl paraben and methyl paraben using HepG2 and HDFn in vitro models. *Toxicol. In Vitro* **55**, 108-115 (2019).
3. Routledge, E.J., Parker, J., Odum, J., *et al.* Some alkyl hydroxy benzoate preservatives (parabens) are estrogenic. *Toxicol. Appl. Pharmacol.* **153**(1), 12-19 (1998).
4. Wang, W. and Kannan, K. Fate of parabens and their metabolites in two wastewater treatment plants in New York state, United States. *Environ. Sci. Technol.* **50**(3), 1174-1181 (2016).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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