

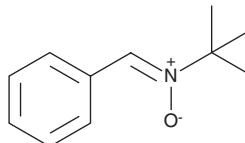
PRODUCT INFORMATION



N-tert-butyl- α -Phenylnitronone

Item No. 15412

CAS Registry No.: 3376-24-7
Formal Name: 2-methyl-N-(phenylmethylene)-2-propanamine N-oxide
Synonyms: PBN
MF: C₁₁H₁₅NO
FW: 177.3
Purity: \geq 98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

N-tert-butyl- α -phenylnitronone (PBN) is supplied as a crystalline solid. A stock solution may be made by dissolving the PBN in the solvent of choice. PBN is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of PBN in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

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 PBN can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of PBN in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PBN is a cell permeable spin trap commonly used in free radical research.¹ It protects against oxidative damage caused by various inflammatory events, demonstrating neuroprotective, anti-aging, and antidiabetic effects.² At millimolar concentrations, PBN has been shown to inhibit LPS-induced NF- κ B DNA binding activity and inhibits COX-2 catalytic activity.³

References

1. Haseloff, R.F., Mertsch, K., Rohde, E., *et al.* Cytotoxicity of spin trapping compounds. *FEBS Lett.* **418**, 73-75 (1997).
2. Floyd, R.A. Antioxidants, oxidative stress, and degenerative neurological disorders. *Proc. Soc. Exp. Biol. Med.* **222**, 236-245 (1999).
3. Kotake, Y., Sang, H., Miyajima, T., *et al.* Inhibition of NF- κ B, iNOS mRNA, COX2 mRNA, and COX catalytic activity by phenyl-N-tert-butyl nitronone (PBN). *Biochim. Biophys. Acta* **1448**, 77-84 (1998).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 01/04/2023

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM