

PRODUCT INFORMATION



BMPO

Item No. 14958

CAS Registry No.: 14958
Formal Name: 3,4-dihydro-2-methyl-1,1-dimethylethyl ester-2H-pyrrole-2-carboxylic acid-1-oxide

Synonym: BocMPO
MF: C₁₀H₁₇NO₃

FW: 199.2

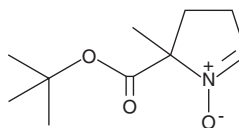
Purity: ≥98%

UV/Vis.: λ_{max}: 239 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



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

Laboratory Procedures

BMPO is supplied as a crystalline solid. A stock solution may be made by dissolving the BMPO in the solvent of choice, which should be purged with an inert gas. BMPO is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of BMPO in ethanol is approximately 33 mg/ml and approximately 25 mg/ml in DMSO and DMF.

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 BMPO can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of BMPO in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

BMPO is a cyclic nitronium spin trap that can be used for the detection and characterization of thiyl radicals, hydroxyl radicals, and superoxide anions *in vitro* or *in vivo*.¹ The BMPO-superoxide adduct does not rapidly decompose to the hydroxyl adduct in cells ($t_{1/2} = 23$ min).^{1,2} Also, the ESR spectrum of the BMPO-glutathionyl adduct does not fully overlap with the spectrum of its hydroxyl adduct.¹ Purified by crystallization and stored as a solid, BMPO has a longer shelf life than liquid spin traps.²

References

1. Zhao, H., Joseph, J., Zhang, H., *et al.* Synthesis and biochemical applications of a solid cyclic nitronium spin trap: A relatively superior trap for detecting superoxide anions and glutathionyl radicals. *Free Radic. Biol. Med.* **31**(5), 599-606 (2001).
2. Khan, N., Wilmont, C.M., Rosen, G.M., *et al.* Spin traps: In vitro toxicity and stability of radical adducts. *Free Radic. Biol. Med.* **34**(11), 1473-1481 (2003).

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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