

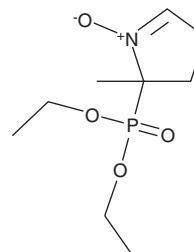
PRODUCT INFORMATION



DEPMPO

Item No. 10006435

CAS Registry No.: 157230-67-6
Formal Name: P-(3,4-dihydro-2-methyl-1-oxido-2H-pyrrol-2-yl)-phosphonic acid, diethyl ester
Synonym: 5-(Diethoxyphosphoryl)-5-methyl-1-pyrroline-N-oxide
MF: C₉H₁₈NO₄P
FW: 235.2
Purity: ≥98%
UV/Vis.: λ_{max}: 240 nm
Supplied as: A neat oil
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

DEPMPO is supplied as a neat oil. A stock solution may be made by dissolving the DEPMPO in the solvent of choice. DEPMPO is miscible in ethanol, DMSO, and dimethyl formamide.

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 DEPMPO can be prepared by directly dissolving the neat oil in aqueous buffers. DEPMPO is miscible in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

DEPMPO is a phosphorylated derivative of the widely used DMPO spin trap. It has been reported to produce spin adducts with increased stability particularly for the adduct of superoxide.¹⁻³ DEPMPO displays a detectable spin adduct signal at a concentration as low as 1 mM, as compared to 5 mM for DMPO (Item No. 10006436).³ A significant advantage of using DEPMPO in trapping superoxide radical is that the decomposition of DEPMPO/O₂^{•-} does not produce the OH[•] adduct, which can be a drawback when using DMPO.^{2,3}

References

1. 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).
2. Anzai, K., Aikawa, T., Furukawa, Y., *et al.* ESR measurement of rapid penetration of DMPO and DEPMPO spin traps through lipid bilayer membranes. *Arch. Biochem. Biophys.* **415**, 251-256 (2003).
3. Liu, K.J., Miyake, M., Panz, T., *et al.* Evaluation of DEPMPO as a spin trapping agent in biological systems. *Free Radic. Biol. Med.* **26**, 714-721 (1999).

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, 10/18/2022

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