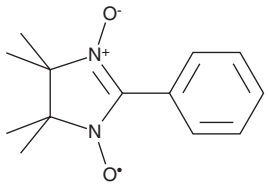
PRODUCT INFORMATION

PTIO

Item No. 14982

CAS Registry No.:	18390-00-6
Formal Name:	4,5-dihydro-4,4,5,5-tetramethyl-2-phenyl-1H-imidazol-1-yloxy, 3-oxide
Synonym:	α-Phenyltetramethylnitronyl nitroxide
MF:	$C_{13}H_{17}N_2O_2$
FW:	233.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 237, 264, 348, 360, 597 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

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

PTIO is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PTIO should first be dissolved in DMF and then diluted with the aqueous buffer of choice. PTIO has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

PTIO is an oxidizing reagent that reacts with nitric oxide to form nitric dioxide and corresponding imino nitroxides.[1] It can be used to assay nitric oxide production when examining nitric oxide synthase inhibitory activity.[2]

References

1. Goldstein, S., Russo, A., and Samuni, A. Reactions of PTIO and carboxy-PTIO with $^{\bullet}NO$, $^{\bullet}NO_2$, and $O^{\bullet}_2$. *J. Biol. Chem.* **278(51)**, 50949-50955 (2013).
2. Nakatsubo, N., Kojima, H., Sakurai, K., *et al*. Improved nitric oxide detection using 2,3-diaminonaphthalene and its application to the evaluation of novel nitric oxide synthase inhibitors. *Biol. Pharm. Bull.* **21**, 1247-1250 (1998).

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