

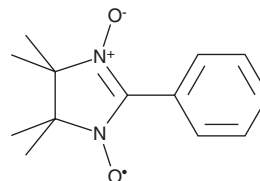
# PRODUCT INFORMATION



## 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:**  $\alpha$ -Phenyltetramethylnitronyl nitroxide  
**MF:**  $C_{13}H_{17}N_2O_2$   
**FW:** 233.3  
**Purity:**  $\geq 98\%$   
**UV/Vis.:**  $\lambda_{max}$ : 237, 264, 348, 360, 597 nm  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^{\circ}\text{C}$   
**Stability:**  $\geq 2$  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.<sup>1</sup> It can be used to assay nitric oxide production when examining nitric oxide synthase inhibitory activity.<sup>2</sup>

### References

1. Goldstein, S., Russo, A., and Samuni, A. Reactions of PTIO and carboxy-PTIO with  $\bullet\text{NO}$ ,  $\bullet\text{NO}_2$ , and  $\text{O}^{\bullet}_2$ . *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).

#### 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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