

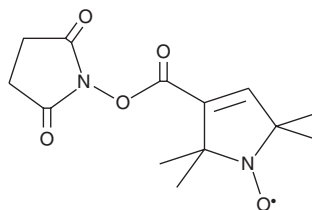
PRODUCT INFORMATION



1-Oxyl-2,2,5,5-tetramethylpyrroline-3-carboxylate NHS ester

Item No. 16148

CAS Registry No.: 37558-29-5
Formal Name: 3-[[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]-2,5-dihydro-2,2,5,5-tetramethyl-1H-pyrrol-1-yloxy
Synonyms: NSC 319633, OXYL-1-NHS, 1-Oxyl-2,2,5,5-tetramethylpyrroline-3-carboxylate N-hydroxysuccinimide ester, Tempyo Ester
MF: C₁₃H₁₇N₂O₅
FW: 281.3
Purity: ≥98%
UV/Vis.: λ_{max}: 219 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

1-Oxyl-2,2,5,5-tetramethylpyrroline-3-carboxylate NHS ester (OXYL-1-NHS) is supplied as a crystalline solid. A stock solution may be made by dissolving the OXYL-1-NHS in the solvent of choice, which should be purged with an inert gas. OXYL-1-NHS is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of OXYL-1-NHS in these solvents is approximately 0.3, 20, and 10 mg/ml, respectively.

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

Description

OXYL-1-NHS is an N-hydroxysuccinimide ester of the nitroxide spin label 2,2,5,5-tetramethyl-3-carboxypyrroline-1-oxyl, also known as tempyo.^{1,2} This ester is an active acylating agent that preferentially targets α-amino groups.^{2,3} This reagent can be used to spin label proteins and aminoacylated RNA species.^{2,4,5}

References

- Schofield, P., Hoffman, B.M., and Rich, A. Spin-labeling studies of aminoacyl transfer ribonucleic acid. *Biochemistry* **9**(12), 2525-2533 (1970).
- Hoffman, B.M., Schofield, P., and Rich, A. Spin-labeled transfer RNA. *Proc. Natl. Acad. Sci. USA* **62**(4), 1195-1202 (1969).
- de Groot, N., Lapidot, Y., Panet, A., *et al.* The synthesis of N-acetylphenylalanyl-sRNA. *Biochem. Biophys. Res. Commun.* **25**(1), 17-22 (1966).
- Cavalu, S., Cînta-Pînzaru, S., Leopold, N., *et al.* Raman and surface enhanced Raman spectroscopy of 2,2,5,5-tetramethyl-3-pyrroline-1-yloxy-3-carboxamide labeled proteins: Bovine serum albumin and cytochrome c. *Biopolymers* **62**(6), 341-348 (2001).
- Cavalu, S., Damian, G., and Dânsoreanu, M. EPR study of non-covalent spin labeled serum albumin and hemoglobin. *Biophys. Chem.* **99**(2), 181-188 (2002).

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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