PRODUCT INFORMATION



N-(2-hydroxyethyl)-Naphthalimide

Item No. 17567

CAS Registry No.: Formal Name:	5450-40-8 2-(2-hydroxyethyl)-1H-benz[de] isoquinoline-1,3(2H)-dione
Synonyms:	N-(2-hydroxyethyl)-1,8-Naphthalimide, NSC 11547
MF:	$C_{1A}H_{11}NO_3$
FW:	241.2
Purity:	≥95%
UV/Vis.:	λ _{max} : 212, 234, 332 nm
Em./Ex. Max:	330-333, 344-347/366-378 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

N-(2-hydroxyethyl)-Naphthalimide is supplied as a crystalline solid. A stock solution may be made by dissolving the N-(2-hydroxyethyl)-naphthalimide in the solvent of choice, which should be purged with an inert gas. N-(2-hydroxyethyl)-Naphthalimide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of N-(2-hydroxyethyl)-naphthalimide is approximately 1 mg/ml in ethanol and approximately 30 mg/ml in DMSO and DMF.

N-(2-hydroxyethyl)-Naphthalimide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, N-(2-hydroxyethyl)-naphthalimide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. N-(2-hydroxyethyl)-Naphthalimide 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

N-(2-hydroxyethyl)-Naphthalimide is an N-substituted 1,8-naphthalimide used as a fluorescent probe and as a precursor for protection of amine groups.¹ It is used to detect nucleic acids and their precursors, which quench the fluorescence of N-(2-hydroxyethyl)-naphthalimide.² Nucleic acids quench the fluorescence most strongly followed by nucleosides and nucleobases, of which purine bases quench more strongly than pyrimidine bases. N-(2-hydroxyethyl)-Naphthalimide is electroactive and forms adducts with 1,3-dihydroxy benzene and 1,3,5-trihydroxybenzene.¹ N-(2-hydroxyethyl)-Naphthalimide displays excitation spectra of 330-333 and 344-347 nm with emission spectra of 366-378 nm in solvents of varying polarities, with a higher Stokes shift in less polar solvents.³

References

- 1. Barooah, N., Tamuly, C., and Baruah, J.B. Synthesis, characterization of few N-substituted 1,8naphthalimide derivatives and their copper(II) complexes. J. Chem. Sci. 117(2), 117-122 (2005).
- 2. Li, H.-T., Jiang, Z.-Q., Zheng, J., et al. A novel 1,8-naphthalimide probe: Synthesis and interactions with nucleic acid and its precursor. Res. Chem. Intermed. 32(1), 43-57 (2006).
- 3. Prezhdo, O.V., Uspenskii, B.V., Prezhdo, V.V., et al. Synthesis and spectral-luminescent characteristics of N-substituted 1,8-naphthalimides. Dyes Pigm. 72(1), 42-46 (2007).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY 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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