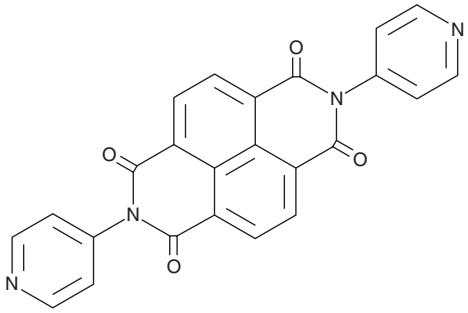
PRODUCT INFORMATION

N,N'-Di(4-pyridyl)-1,4,5,8-naphthalenetetracarboxdiimide

Item No. 45687



CAS Registry No.:	34151-49-0
Formal Name:	2,7-di-4-pyridinyl-benzo[lmn][3,8] phenanthroline-1,3,6,8(2H,7H)-tetrone
Synonyms:	DPNDI, DPNTCDI, PDNDI
MF:	$C_{24}H_{12}N_4O_4$
FW:	420.4
Purity:	≥95%
Supplied as:	A 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,N'-Di(4-pyridyl)-1,4,5,8-naphthalenetetracarboxdiimide (DPNDI) is supplied as a solid. A stock solution may be made by dissolving the DPNDI in the solvent of choice, which should be purged with an inert gas. DPNDI is soluble (≥10 mg/ml) in trifluoroacetic acid. DPNDI is sparingly soluble (1-10 mg/ml) in 1N hydrochloric acid.

Description

DPNDI is a synthetic building block that has been used in the synthesis of covalent organic frameworks (COFs) and metal-organic frameworks (MOFs).[1-3] Complexes containing DPNDI have been used for the detection of various organic molecules, including organic amides and antibiotics, and as an anode in rechargeable lithium-ion batteries.

References

1. Dong, Q., Naren, T., Zhang, L., *et al.* A naphthalenetetracarboxdiimide-containing covalent organic polymer: Preparation, single crystal structure and battery application. *Angew Chem. Int. Ed. Engl.* **63(26)**, e202405426 (2024).
2. Jin, Y., Xu, S.B., Zhang, T., *et al.* A naphthalene diimide derived Zn-MOF: synthesis and dual-response fluorescent switching for turn-on/turn-off antibiotic sensing. *Microchem. J.* **227**, 118676 (2026).
3. Liu, J.J., Shan, Y.B., Fan, C.R., *et al.* Encapsulating naphthalene in an electron-deficient MOF to enhance fluorescence for organic amines sensing. *Inorg. Chem.* **55(7)**, 3680-3684 (2016).

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
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