

PRODUCT INFORMATION



4-Nitrophenyl Phenylphosphonate

Item No. 17436

CAS Registry No.: 57072-35-2
Formal Name: P-phenyl-phosphonic acid, mono(4-nitrophenyl) ester
Synonyms: bis(4-Nitrophenyl) Phenylphosphonate,
p-Nitrophenyl Phenylphosphonate, NPPP

MF: C₁₂H₁₀NO₅P
FW: 279.2
Purity: ≥98%

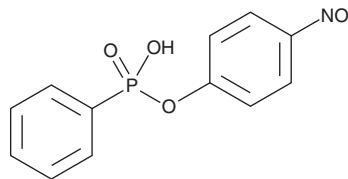
UV/Vis.: λ_{max}: 215, 272 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Special Conditions: Solution turns yellow with PBS addition



Laboratory Procedures

4-Nitrophenyl phenylphosphonate is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-nitrophenyl phenylphosphonate in the solvent of choice. 4-Nitrophenyl phenylphosphonate is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 4-nitrophenyl phenylphosphonate in these solvents is approximately 14 and 30 mg/ml, respectively.

4-Nitrophenyl phenylphosphonate is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-nitrophenyl phenylphosphonate should first be dissolved in DMF and then diluted with the aqueous buffer of choice. 4-Nitrophenyl phenylphosphonate 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

4-Nitrophenyl phenylphosphonate is a substrate for 5'-nucleotide phosphodiesterases.¹ It is a more preferable substrate to 5'-nucleotide phosphodiesterases than naturally occurring nucleotides or bis(4-nitrophenyl) phosphate because of its stability, ease of synthesis, and higher rate of hydrolysis under saturating conditions.²

References

1. Moe, O.A., Jr. and Butler, L.G. The catalytic mechanism of bovine intestinal 5'-nucleotide phosphodiesterase. pH and inhibition studies. *J. Biol. Chem.* **258(11)**, 6941-6946 (1983).
2. Kelly, S.J., Dardinger, D.E., and Butler, L.G. Hydrolysis of phosphonate esters catalyzed by 5'-nucleotide phosphodiesterase. *Biochem.* **14(22)**, 4983-4988 (1975).

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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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