

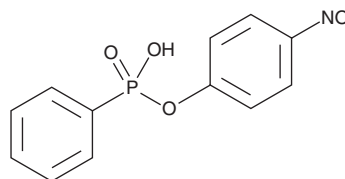
# PRODUCT INFORMATION



## 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, para-Nitrophenyl Phenylphosphonate, NPPP  
**MF:** C<sub>12</sub>H<sub>10</sub>NO<sub>5</sub>P  
**FW:** 279.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 215, 272 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Special Conditions:** Solution turns yellow with PBS addition



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### 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, which should be purged with an inert gas. 4-Nitrophenyl phenylphosphonate is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). 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.<sup>1</sup> 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.<sup>2</sup>

### 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. *Biochemistry.* **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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