



>>Entry Name: Barium phosphate (BaHPO₄)

Synonym(s): Barium phosphate (1:1), 9Cl, 8Cl. Barium monohydrogenphosphate

CAS Registry Number: 10048-98-3

BaHPO₄

Molecular Formula: BaHO₄P

Molecular Weight: 233.306

Accurate Mass: 233.866479

Percentage Composition: Ba 58.86%; H 0.43%; O 27.43%; P 13.28%

General Statement: Orthorhombic. Each Ba ion is coordinated to 10 O atoms, being bonded to form PO₄ tetrahedra by edge sharing and to 2 more by corner sharing. The PO₄ groups are linked by H-bonds into continuous chains

Source/Synthesis: Synth. from BaO in excess H₃PO₄, or Ba²⁽⁺⁾ + (NH₄)₂HPO₄ in H₂O. Also from Ba(NH₄)PO₄ when heated

Physical Description: Colourless thin plates or flat needles

Other Data: Loses H₂O at 500° to give the pyrophosphate. Stable to H₂O at 90°

Aldrich: 31139-1

References:

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Blinic, R. *et al.*, *Phys. Status Solidi B*, 1976, **74**, 425, (ir, Raman)

Sato, S. *et al.*, *Bull. Chem. Soc. Jpn.*, 1985, **58**, 3513, (synth, P-31 nmr)

Turner, G.L. *et al.*, *J. Magn. Reson.*, 1986, **70**, 408, (P-31 nmr)

Mudrakovski, I.L. *et al.*, *J. Phys. Chem. Solids*, 1986, **47**, 335, (P-31 nmr)