



>>Entry Name: Zinc phosphate (Zn(H₂PO₄)₂)

Synonym(s): Zinc phosphate (1:2), 9Cl, 8Cl. Zinc bis(dihydrogenphosphate). Zinc orthophosphate

CAS Registry Number: 13598-37-3

Related CAS Registry Numbers(s): 85601-22-5

Zn(H₂PO₄)₂

Molecular Formula: H₄O₈P₂Zn

Molecular Weight: 259.364

Accurate Mass: 257.867289

Percentage Composition: H 1.55%; O 49.35%; P 23.88%; Zn 25.21%

Source/Synthesis: Obt. from dihydrate at 60-150°

Physical Description: Irregular colourless cryst. with strong birefringence

>>Derivative: Dihydrate

CAS Registry Number: 13986-21-5

Molecular Formula: H₈O₁₀P₂Zn

Molecular Weight: 295.395

Accurate Mass: 293.888419

Percentage Composition: H 2.73%; O 54.16%; P 20.97%; Zn 22.14%

Source/Synthesis: Obt. from Zn + H₃PO₄ aq.; or from ZnO + H₃PO₄ at low temp.; or Zinc phosphate (Zn₃(PO₄)₂) [HTN33-Y](#) + H₃PO₄ aq.

Physical Description: Colourless cryst. (rhombs)

Solubility: Dissolves incongr. → Zinc phosphate (Zn₃(PO₄)₂) [HTN33-Y](#)

Other Data: Monoclinic. Dehydrates at 60-150°, when condensations then begin. Readily forms isol. addition salts with H₃PO₄. Dec. in H₂O

References:

Salmon, J.E. *et al.*, *J.C.S.*, 1950, 2813, (*synth*)

Higashi, S. *et al.*, *CA*, 1969, **71**, 73975; 74010, (*synth*)

Goloshchapov, M.V. *et al.*, *Zh. Neorg. Khim.*, 1969, **14**, 814; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1969, **14**, 424, (*synth*)

Kozina, T.M. *et al.*, *Zh. Prikl. Khim. (Leningrad)*, 1973, **46**, 812; *J. Appl. Chem. USSR (Engl. Transl.)*, 1973, **46**, 861, (*synth*)

Averbuch-Panchot, M.T. *et al.*, *J. Appl. Crystallogr.*, 1974, **7**, 511, (*cryst struct*)

Nirsha, B.M. *et al.*, *Zh. Neorg. Khim.*, 1982, **27**, 1121; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1982, **27**, 630, (*props*)

Bogoyavlenskaya, G.A. *et al.*, *Zh. Prikl. Khim. (Leningrad)*, 1982, **55**, 1738; *J. Appl. Chem. USSR (Engl. Transl.)*, 1982, **55**, 1598, (*ir*)

Ponomareva, I.G. *et al.*, *Zh. Neorg. Khim.*, 1988, **33**, 2832; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1988, **33**, 1629, (*synth, cryst struct*)

Samuskevich, V.V. *et al.*, *Izv. Akad. Nauk SSSR, Neorg. Mater.*, 1989, **25**, 1344; *Inorg. Mater. (Engl. Transl.)*, 1989, **25**, 1134, (*synth*)