



>>Entry Name: Ammonium sodium phosphate ((NH₄)Na(PO₄))

Synonym(s): Monoammonium monosodium phosphate, 9Cl, 8Cl. Microcosmic salt

CAS Registry Number: 13011-54-6

Related CAS Registry Numbers(s): 15490-89-8

Na(NH₄)(HPO₄)

Molecular Formula: H₅NNaO₄P

Molecular Weight: 137.007

Accurate Mass: 136.985388

Percentage Composition: H 3.68%; N 10.22%; Na 16.78%; O 46.71%; P 22.61%

Use/Importance: Formerly used in qualitative inorg. anal.

>>Derivative: Tetrahydrate

CAS Registry Number: 7783-13-3

Extra CAS Registry Numbers(s): 51750-73-3

Molecular Formula: H₁₃NNaO₈P

Molecular Weight: 209.068

Accurate Mass: 209.027648

Percentage Composition: H 6.27%; N 6.70%; Na 11.00%; O 61.22%; P 14.82%

Source/Synthesis: Synth. from H₃PO₄ + NH₃ + NaOH. Occurs as *Stercorite*

Use/Importance: Reagent in phosphate bead test for metal ions. Commercially available

Physical Description: Colourless monoclinic vitreous cryst. (H₂O at -6° to +10°)

Solubility: Sol. H₂O

Other Data: Layered struct. consisting of rows of Na octahedra sandwiched between P tetrahedra. NH₄⁽⁺⁾ and H₂O molecules are also in tetrahedral environments.

Begins to dec. at 30-40°, finally losing all NH₃ at ca. 200°. A decahydrate has also been reported

Aldrich: 24350-7

Sigma: S4172

References:

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