



>>Entry Name: Molybdophosphoric acid ($\text{H}_3\text{PMo}_{12}\text{O}_{40}$), 9Cl

Synonym(s): Tetracosa- μ -oxododecaoxo[μ_{12} -phosphato(3-)]dodecamolybdate(3-) trihydrogen, 11Cl. Molybdenum hydroxide oxide phosphate ($\text{Mo}_{12}(\text{OH})_3\text{O}_{33}(\text{PO}_4)$). 12-Molybdophosphoric acid

CAS Registry Number: 51429-74-4

Related CAS Registry Numbers(s): 12293-12-8 61163-78-8 69402-82-0 75864-68-5

$\text{H}_3[\text{PMo}_{12}\text{O}_{40}]$

Molecular Formula: $\text{H}_3\text{Mo}_{12}\text{O}_{40}\text{P}$

Molecular Weight: 1825.253

Accurate Mass: 1848.658709

Percentage Composition: H 0.17%; Mo 63.08%; O 35.06%; P 1.70%

⁴⁽⁻⁾ [JRK39-X](#) for a description)

Source/Synthesis: Obt. by acidification of phosphate-molybdate mixture

Use/Importance: Used in gravimetric or colorimetric analytical methods for phosphorus. As complexing agent in the analysis of elements such as Ti, Zr, Hf, Th, Nb, Ce and Sb. Widely cited as oxidation catalyst

Physical Description: Bright yellow cryst. Tribasic acid

Solubility: V. sol. H_2O , oxygenated solvs.

Other Data: Many hydrates reported

Aldrich: 22185-6

Fluka: 79563

Sigma: P7390

>>Variant: α -form

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>>Derivative: 14 Hydrate

CAS Registry Number: 12026-57-2

Physical Description: Yellow cryst.

Sigma: P7788

>>Derivative: Tri- NH_4 salt

CAS Registry Number: 54723-94-3

Physical Description: Solid + $x\text{H}_2\text{O}$

Aldrich: 34216-5

Fluka: 79561

References:

Pope, M.T., *Heteropoly and Isopoly Oxometalates*, Springer-Verlag, 1983, (rev, bibl)

Rocchiccioli-Deltcheff, C. *et al.*, *Inorg. Chem.*, 1983, **22**, 207, (ir, Raman, thermal anal, electrochem)