



>>Entry Name: **Diphosphoryl chloride**, 9CI

Synonym(s): Pyrophosphoryl chloride. μ -Oxobis(phosphoryl chloride). Diphosphoric acid tetrachloride. Dichlorophosphoric anhydride. μ -Oxobis(dichlorooxophosphorus(V))

CAS Registry Number: 13498-14-1

$\text{Cl}_2(\text{O})\text{POP}(\text{O})\text{Cl}_2$

Molecular Formula: $\text{Cl}_4\text{O}_3\text{P}_2$

Molecular Weight: 251.756

Accurate Mass: 249.807677

Percentage Composition: Cl 56.33%; O 19.07%; P 24.61%

Source/Synthesis: Synth. from $\text{P}_4\text{O}_{10} + \text{POCl}_3$ or $\text{PCl}_3 + \text{N}_2\text{O}_4$

Use/Importance: Phosphorylating agent, used particularly in carbohydrate and nucleotide chemistry.

Physical Description: Colourless, odourless, non-fuming, oily liq.

Melting Point: Mp -16.5°

Boiling Point: Bp 215° dec.. Bp₁₀ 101°

Solubility: Sol. hydrocarbons, Et_2O , PhNO_2 , C_6H_6

Density: d_4^{20} 1.814

Refractive Index: n_D^{20} 1.4765

Aldrich: 38182-9

Fluka: 83215

Sigma: P5142

References:

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Mellor Compr. Treat. Inorg. Theor. Chem., 1971, **8/III**, 504; 1154, (*rev*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 522, (*synth*)

Seela, F. *et al.*, *Chem. Ber.*, 1979, **112**, 3743, (*synth, ir, P-31 nmr*)

Tsivadze, A.Y. *et al.*, *Zh. Neorg. Khim.*, 1980, **25**, 2434; *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1980, **25**, 1345, (*Raman*)

Kravchenko, E.A. *et al.*, *Z. Chem.*, 1983, **23**, 143, (*nqr*)

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