



>>Entry Name: Diphenyl phosphorochloridate, 9Cl, 8Cl

Synonym(s): Diphenyl chlorophosphate. Diphenyl phosphoryl chloride

CAS Registry Number: 2524-64-3

Type of Compound Code(s): AC4020 AC4040

(PhO)₂P(O)Cl

Molecular Formula: C₁₂H₁₀ClO₃P

Molecular Weight: 268.636

Accurate Mass: 268.005609

Percentage Composition: C 53.65%; H 3.75%; Cl 13.20%; O 17.87%; P 11.53%

Use/Importance: Phosphorylating agent for alcohols, amines, and thiols; selective to RNH₂ in presence of ROH. Mild dehydrating agent e.g. converts oximes into nitriles.

Activating reagent in the conversion of carboxylic acids into esters and amides

Physical Description: Liq.

Boiling Point: Bp₂₇₂ 314-316°. Bp₂₁ 212-215°. Bp_{0.1} 134°

Density: d₄²⁰ 1.296

Refractive Index: n_D²⁰ 1.5490

Aldrich: D20655-5

Fluka: 79630

Sigma: D4880

References:

Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **2**, 1689B, (*nmr*)

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **2**, 556A, (*ir*)

Freeman, H.F., *J.A.C.S.*, 1938, **60**, 750, (*synth*)

Walsh, E.N., *J.A.C.S.*, 1959, **81**, 3023, (*synth*)

Sosnovsky, G. *et al.*, *J.O.C.*, 1969, **34**, 968, (*synth*)

Just, G. *et al.*, *J. Prakt. Chem.*, 1971, **313**, 69, (*synth*)

Horner, L. *et al.*, *Phosphorus Sulfur Relat. Elem.*, 1981, **11**, 157, (*props, use*)

Arrieta, A. *et al.*, *Synth. Commun.*, 1983, **13**, 471, (*use*)