



>>Entry Name: Diethoxyphosphinecarboxylic acid oxide, 9CI

Synonym(s): *O,O*-Diethylphosphonoformic acid

Related CAS Registry Numbers(s): 86170-44-7 132916-41-7

(EtO)₂P(O)COOH

Molecular Formula: C₅H₁₁O₅P

Molecular Weight: 182.113

Accurate Mass: 182.034412

Percentage Composition: C 32.98%; H 6.09%; O 43.93%; P 17.01%

Use/Importance: Esters are plant growth regulators

>>Derivative: Me ester

Synonym(s): Diethyl methyl phosphonoformate

CAS Registry Number: 41760-84-3

Molecular Formula: C₆H₁₃O₅P

Molecular Weight: 196.139

Accurate Mass: 196.050062

Percentage Composition: C 36.74%; H 6.68%; O 40.79%; P 15.79%

Use/Importance: Used in heterocyclic synth.

Physical Description: Liq.

Boiling Point: Bp₃ 87-93°

>>Derivative: Et ester

Synonym(s): Triethyl phosphonoformate

CAS Registry Number: 1474-78-8

Molecular Formula: C₇H₁₅O₅P

Molecular Weight: 210.166

Accurate Mass: 210.065712

Percentage Composition: C 40.00%; H 7.19%; O 38.06%; P 14.74%

Use/Importance: Used in heterocyclic synth.

Physical Description: Liq.

Boiling Point: Bp_{0.8} 76-77°

Density: d₀⁰ 1.14

Refractive Index: n_D²⁰ 1.4250

Aldrich: 13511-9

Fluka: 79500

References:

Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **1**, 1485B, (*nmr*)

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Reetz, T. *et al.*, *J.A.C.S.*, 1955, **77**, 3813, (*synth*)

Ogata, J. *et al.*, *J.O.C.*, 1970, **35**, 596, (*synth, props*)

Warren, S. *et al.*, *J.C.S.(B)*, 1971, 618, (*synth, props*)

Shotani, S. *et al.*, *Chem. Pharm. Bull.*, 1973, **21**, 1160, (*synth, props*)

Gakis, N. *et al.*, *Helv. Chim. Acta*, 1975, **58**, 748, (*use*)

Morita, T. *et al.*, *Bull. Chem. Soc. Jpn.*, 1981, **54**, 267, (*synth*)

Cload, P.A. *et al.*, *Org. Mass Spectrom.*, 1983, **18**, 57, (*benzyl ester, ms*)

Rol'nik, L.Z. *et al.*, *Zh. Obshch. Khim.*, 1983, **53**, 1238; *J. Gen. Chem. USSR (Engl. Transl.)*, 1983, **53**, 1104, (*Et ester, synth, ir, P-31 nmr*)

Livantsov, M.V. *et al.*, *Zh. Obshch. Khim.*, 1984, **54**, 2504; *J. Gen. Chem. USSR (Engl. Transl.)*, 1984, **54**, 2237, (*ester, synth, ir*)

Krol, E.S. *et al.*, *Chem. Comm.*, 1991, 118, (*Ph ester, P-31 nmr, use*)