



>>Entry Name: Dipentyl phosphate, 9Cl, 8Cl

Synonym(s): Dipentyl hydrogen phosphate. Dipentyl phosphoric acid. Diamyl phosphate. Diamyl hydrogen phosphate. Diamyl phosphoric acid

CAS Registry Number: 3138-42-9

Type of Compound Code(s): AC4000

$[H_3C(CH_2)_4O]_2P(O)OH$

Molecular Formula: $C_{10}H_{23}O_4P$

Molecular Weight: 238.263

Accurate Mass: 238.133397

Percentage Composition: C 50.41%; H 9.73%; O 26.86%; P 13.00%

Use/Importance: Extractant for Hf

Physical Description: Oil

Refractive Index: n_D^{20} 1.4370

>>Derivative: Me_4N salt

Physical Description: Solid

Melting Point: Mp 212°

>>Derivative: Fluoride

Synonym(s): Dipentyl phosphorofluoridate. Diamyl phosphoryl fluoride. Diamyl fluorophosphate. Dipentyl phosphoryl fluoride. Diamyl phosphorofluoridate. Dipentyl fluorophosphate

Type of Compound Code(s): AC4020

Molecular Formula: $C_{10}H_{22}FO_3P$

Molecular Weight: 240.254

Accurate Mass: 240.12906

Percentage Composition: C 49.99%; H 9.23%; F 7.91%; O 19.98%; P 12.89%

Physical Description: Liq.

Boiling Point: Bp_{30} 143-144°

Hazard & Toxicity: Toxic

>>Derivative: Chloride

Synonym(s): Dipentyl phosphorochloridate. Diamyl phosphoryl chloride. Dipentyl phosphoryl chloride. Diamyl phosphorochloridate

CAS Registry Number: 14254-40-1

Type of Compound Code(s): AC4020

Molecular Formula: $C_{10}H_{22}ClO_3P$

Molecular Weight: 256.708

Accurate Mass: 256.099509

Percentage Composition: C 46.79%; H 8.64%; Cl 13.81%; O 18.70%; P 12.07%

Physical Description: Oil

Boiling Point: Bp_1 131-133°. $Bp_{0.04}$ 71-72°

Refractive Index: n_D^{25} 1.4373

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>>Derivative: Anilide

Synonym(s): Dipentyl phenylphosphoramidate. Diamyl phenylphosphoramidate

Type of Compound Code(s): AC4050

Molecular Formula: $C_{16}H_{28}NO_3P$

Molecular Weight: 313.376

Accurate Mass: 313.180681

Percentage Composition: C 61.32%; H 9.01%; N 4.47%; O 15.32%; P 9.88%

Physical Description: Oil

Boiling Point: $Bp_{2.5}$ 201-203°

Refractive Index: n_D^{20} 1.4810

References:

- Cook, H.G. *et al.*, *J.C.S.*, 1949, 635, (*fluoride, synth, tox*)
Ramaswami, D. *et al.*, *J.A.C.S.*, 1953, **75**, 1763, (*chloride, anilide*)
Chabrier, P. *et al.*, *C. R. Hebd. Seances Acad. Sci.*, 1957, **244**, 2730, (*synth*)
de Roos, A.M. *et al.*, *Rec. Trav. Chim. (J. R. Neth. Chem. Soc.)*, 1958, **77**, 946, (*chloride*)
Grosse-Ruyken, H. *et al.*, *J. Prakt. Chem.*, 1962, **18**, 287, (*synth, chloride*)
Navratil, O. *et al.*, *Hydrometallurgy*, 1981, **7**, 289, (*use*)