



>>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

$[\text{H}_3\text{C}(\text{CH}_2)_4\text{O}]_2\text{P}(\text{O})\text{OH}$

Molecular Formula: $\text{C}_{10}\text{H}_{23}\text{O}_4\text{P}$

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: $\text{C}_{10}\text{H}_{22}\text{FO}_3\text{P}$

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: $\text{C}_{10}\text{H}_{22}\text{ClO}_3\text{P}$

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°. $\text{Bp}_{0.04}$ 71-72°

Refractive Index: n_{D}^{25} 1.4373

Rare Chemicals Library: S65256-3

>>Derivative: Anilide

Synonym(s): Dipentyl phenylphosphoramidate. Diamyl phenylphosphoramidate

Type of Compound Code(s): AC4050

Molecular Formula: $\text{C}_{16}\text{H}_{28}\text{NO}_3\text{P}$

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: $\text{Bp}_{2.5}$ 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*)