



**Molecular Formula:** C<sub>12</sub>H<sub>22</sub>FOP

**Molecular Weight:** 232.277

**Accurate Mass:** 232.13923

**Percentage Composition:** C 62.05%; H 9.55%; F 8.18%; O 6.89%; P 13.33%

**Physical Description:** No phys. props. reported

>>Derivative: Chloride

**CAS Registry Number:** 15873-72-0

**Molecular Formula:** C<sub>12</sub>H<sub>22</sub>ClOP

**Molecular Weight:** 248.732

**Accurate Mass:** 248.109679

**Percentage Composition:** C 57.95%; H 8.91%; Cl 14.25%; O 6.43%; P 12.45%

**Physical Description:** Cryst. (C<sub>6</sub>H<sub>6</sub>)

**Melting Point:** Mp 108.5°

>>Derivative: Anhydride

**CAS Registry Number:** 124823-46-7

**Molecular Formula:** C<sub>24</sub>H<sub>44</sub>O<sub>3</sub>P<sub>2</sub>

**Molecular Weight:** 442.557

**Accurate Mass:** 442.276569

**Percentage Composition:** C 65.14%; H 10.02%; O 10.85%; P 14.00%

**Physical Description:** Solid

**Melting Point:** Mp 109-110°

**Boiling Point:** Bp<sub>0.04</sub> 180-185°

#### References:

Stiles, A.R. *et al.*, *J.A.C.S.*, 1952, **74**, 3282, (*synth*)

Issleib, K. *et al.*, *Z. Anorg. Allg. Chem.*, 1954, **277**, 258, (*synth, chloride, esters*)

Buckler, S.A., *J.A.C.S.*, 1962, **84**, 3093, (*ester*)

Müller, E. *et al.*, *Chem. Ber.*, 1967, **100**, 521, (*synth, chloride*)

Knunyants, I.L. *et al.*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1971, **201**, 862; *Dokl. Chem. (Engl. Transl.)*, 1971, **201**, 992, (*fluoride, F-19 nmr, P-31 nmr*)

Aslanov, L.A. *et al.*, *Zh. Strukt. Khim.*, 1979, **20**, 758; *J. Gen. Chem. USSR (Engl. Transl.)*, 1979, **20**, 646, (*cryst struct*)

Nifant'ev, E.E. *et al.*, *Zh. Obshch. Khim.*, 1980, **50**, 1744; *J. Gen. Chem. USSR (Engl. Transl.)*, 1980, **50**, 1416, (*synth, P-31 nmr*)

Weferling, N. *et al.*, *Z. Anorg. Allg. Chem.*, 1987, **548**, 55, (*chloride*)

Gomelya, N.D. *et al.*, *Zh. Obshch. Khim.*, 1987, **57**, 1702; 1988, **58**, 2652; *J. Gen. Chem. USSR (Engl. Transl.)*, 1987, **57**, 1518; 1988, **58**, 2360, (*synth, anhydride, P-31 nmr*)