>>**Entry Name: Dimethyl phosphate,** 9CI, 8CI
Synonym(s): Dimethyl hydrogen phosphate. Dimethyl phosphoric acid

CAS Registry Number: 813-78-5
Type of Compound Code(s): AC4000
$(MeO)_2P(O)OH$

Molecular Formula: $C_2H_7O_4P$
Molecular Weight: 126.049
Accurate Mass: 126.008197
Percentage Composition: C 19.06%; H 5.60%; O 50.77%; P 24.57%
Source/Synthesis: Final prod. of hydrolysis or metab. of many insecticides, and of *O*,*O*-Dimethyl phosphorodithioate GGM75-J by *Thiobacillus thioflavus*
Use/Importance: Fireproofing agent, cross-linking agent in polymerisation
Physical Description: Syrup
Boiling Point: $Bp_{0.0001}$ 78-80°
Density: d^{20} 1.35
pKa Value: pK_a 1.29 (25°) pK_{a1} 1.25 (20°,H_2O) pK_{a1} 3.01 (80% EtOH aq.) pK_{a1} 4.58 (95% EtOH aq.) pK_{a1} 6.37 (EtOH) pK_{a1} 9.5 ($MeNO_2$)
Refractive Index: n_D^{20} 1.4080

Aldrich: 44516-9

>>**Derivative:** Me_4N salt
Physical Description: Solid
Melting Point: Mp 215°

>>**Derivative:** Fluoride
see Dimethyl phosphorofluoridate, DRL02-Y

>>**Derivative:** Chloride
see Dimethyl phosphorochloridate, GGX48-G

>>**Derivative:** Bromide
see Dimethyl phosphorobromidate, DRK91-T

>>**Derivative:** Cyanide
see Dimethyl phosphorocyanidate, DKL37-P

>>**Derivative:** Amide
see O,O-Dimethyl phosphoramidate, DLB67-H

>>**Derivative:** Anilide
see Dimethyl phenylphosphoramidate, DKS28-W

>>**Derivative:** Azide
see Dimethyl phosphorazidate, DQZ17-R

>>**Derivative:** Hydrazide
see Dimethyl phosphorohydrazidate, DQZ06-N

>>**Derivative:** Anhydride
see Tetramethyl pyrophosphate, GGK75-Z

References: