



>>Entry Name: [(Trimethylsilyl)methyl]phosphonic acid

CAS Registry Number: 13433-50-6

Me3SiCH2P(O)(OH)2

Molecular Formula: C₄H₁₃O₃PSi

Molecular Weight: 168.204

Accurate Mass: 168.037159

Percentage Composition: C 28.56%; H 7.79%; O 28.54%; P 18.41%; Si 16.70%

Physical Description: Cryst.

Melting Point: Mp 121°

>>Derivative: Di-Me ester

CAS Registry Number: 13433-42-6

Molecular Formula: C₆H₁₇O₃PSi

Molecular Weight: 196.258

Accurate Mass: 196.068459

Percentage Composition: C 36.72%; H 8.73%; O 24.46%; P 15.78%; Si 14.31%

Source/Synthesis: Synth. from (MeO)₂P(O)CH₂Li + Me₃SiCl

Boiling Point: Bp₇ 93°

Refractive Index: n_D²⁵ 1.4363

>>Derivative: Di-Et ester

CAS Registry Number: 14467-94-8

Molecular Formula: C₈H₂₁O₃PSi

Molecular Weight: 224.311

Accurate Mass: 224.099759

Percentage Composition: C 42.84%; H 9.44%; O 21.40%; P 13.81%; Si 12.52%

Boiling Point: Bp_{5.5} 96-98°

Refractive Index: n_D²⁵ 1.4302

>>Derivative: Dichloride

CAS Registry Number: 13433-51-7

Molecular Formula: C₄H₁₁Cl₂OPSi

Molecular Weight: 205.095

Accurate Mass: 203.969383

Percentage Composition: C 23.43%; H 5.41%; Cl 34.57%; O 7.80%; P 15.10%; Si 13.69%

Source/Synthesis: Synth. by hydrolysis of product from Me₃SiCH₂Cl + PCl₃ + AlCl₃

Boiling Point: Bp_{1.4} 64°

Refractive Index: n_D²⁵ 1.4710

References:

Hartle, R.J. *et al.*, *J.O.C.*, 1966, **31**, 4288-4290, (*synth*)

Savignac, P. *et al.*, *Synthesis*, 1982, 725-726

Aboujaoude, E.E. *et al.*, *Synthesis*, 1986, 934-937, (*synth*, *P-31 nmr*)