



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

CAS Registry Number: 13433-50-6

$\text{Me}_3\text{SiCH}_2\text{P}(\text{O})(\text{OH})_2$

Molecular Formula: $\text{C}_4\text{H}_{13}\text{O}_3\text{PSi}$

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: $\text{C}_6\text{H}_{17}\text{O}_3\text{PSi}$

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 $(\text{MeO})_2\text{P}(\text{O})\text{CH}_2\text{Li} + \text{Me}_3\text{SiCl}$

Boiling Point: Bp₇ 93°

Refractive Index: n_D^{25} 1.4363

>>Derivative: Di-Et ester

CAS Registry Number: 14467-94-8

Molecular Formula: $\text{C}_8\text{H}_{21}\text{O}_3\text{PSi}$

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_D^{25} 1.4302

>>Derivative: Dichloride

CAS Registry Number: 13433-51-7

Molecular Formula: $\text{C}_4\text{H}_{11}\text{Cl}_2\text{OPSi}$

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 $\text{Me}_3\text{SiCH}_2\text{Cl} + \text{PCl}_3 + \text{AlCl}_3$

Boiling Point: Bp_{1.4} 64°

Refractive Index: n_D^{25} 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*)