



>>Entry Name: [2-(Methoxymethylamino)-2-oxoethyl]phosphonic acid, 9CI

Synonym(s): (N-Methoxy-N-methylcarbamoylmethyl)phosphonic acid

$(\text{HO})_2\text{P}(\text{O})\text{CH}_2\text{CONMeOMe}$

Molecular Formula: $\text{C}_4\text{H}_{10}\text{NO}_5\text{P}$

Molecular Weight: 183.101

Accurate Mass: 183.029661

Percentage Composition: C 26.24%; H 5.50%; N 7.65%; O 43.69%; P 16.92%

Aldrich: 36243-3

>>Derivative: Di-Me ester

Synonym(s): Dimethyl [2-(methoxymethylamino)-2-oxoethyl]phosphonate, 9CI

CAS Registry Number: 134833-70-8

Molecular Formula: $\text{C}_6\text{H}_{14}\text{NO}_5\text{P}$

Molecular Weight: 211.154

Accurate Mass: 211.060961

Percentage Composition: C 34.13%; H 6.68%; N 6.63%; O 37.89%; P 14.67%

Use/Importance: Wittig-Horner reagent

Physical Description: Liq.

Boiling Point: $\text{Bp}_{0.06}$ 105-108°

Other Data: Thermally unstable at >110°

>>Derivative: Di-Et ester

Synonym(s): Diethyl [2-(methoxymethylamino)-2-oxoethyl]phosphonate, 9CI

CAS Registry Number: 124931-12-0

Molecular Formula: $\text{C}_8\text{H}_{18}\text{NO}_5\text{P}$

Molecular Weight: 239.208

Accurate Mass: 239.092261

Percentage Composition: C 40.17%; H 7.58%; N 5.86%; O 33.44%; P 12.95%

Use/Importance: Wittig-Horner reagent

Boiling Point: Bp_{17} 90°

Density: d 1.16

Refractive Index: n_D^{20} 1.4550

Other Data: Dec. at ca. 180°

References:

Nüzillard, J.-M. *et al.*, *Tet. Lett.*, 1989, **30**, 3779-3780, (*di-Et ester, synth, use, ir, pmr, ms*)

Groesbeek, M. *et al.*, *Rec. Trav. Chim. (J. R. Neth. Chem. Soc.)*, 1992, **111**, 149-154, (*di-Et ester, synth, ir, pmr, cmr, use*)

Netz, D.F. *et al.*, *Tet. Lett.*, 1992, **33**, 1957-1958, (*di-Et ester, synth, use, pmr, cmr, ir, ms*)

Hiyama, T. *et al.*, *Bull. Chem. Soc. Jpn.*, 1995, **68**, 352-363, (*di-Me ester, use*)

Jacobi, P.A. *et al.*, *J.O.C.*, 1995, **60**, 376-385, (*di-Me ester, synth*)

Entwistle, D.A. *et al.*, *J.C.S. Perkin I*, 1996, 1315-1317, (*di-Et ester, use*)