



>>Entry Name: 2-[(Trimethylsilyl)methyl]-2-propen-1-ol acetate, 10Cl

Synonym(s): 2-(Acetoxymethyl)-3-(trimethylsilyl)propene

CAS Registry Number: 72047-94-0

$\text{H}_2\text{C}=\text{C}(\text{CH}_2\text{OAc})\text{CH}_2\text{SiMe}_3$

Molecular Formula: $\text{C}_9\text{H}_{18}\text{O}_2\text{Si}$

Molecular Weight: 186.325

Accurate Mass: 186.107607

Percentage Composition: C 58.02%; H 9.74%; O 17.17%; Si 15.07%

Source/Synthesis: Synth. from $\text{H}_2\text{C}=\text{C}(\text{CH}_2\text{Cl})_2 + \text{HSiCl}_3 + \text{CuCl} + \text{Et}_3\text{N}$, followed by MeMgBr, then KOAc

Use/Importance: Commercially available trimethylenemethane synthon; useful annelating agent (contains nucleophilic and electrophilic centres); undergoes [3+2] cycloaddn. with electron poor alkenes to give methylene cyclopentanes in presence of catalytic Pd(0); with Pd(0) and Bu_3SnOAc as cocatalyst, adds to aldehydes to give methylene tetrahydrofurans

Physical Description: Colourless oil

Boiling Point: Bp₇ 95°. Bp_{6.5} 68-70°

Solubility: Sol. Et_2O

Other Data: More stable than corresp. chloride

Aldrich: 33983-0

Fluka: 870

References:

Aldrich Library of ^{13}C and ^1H FT NMR Spectra, 1992, **3**, 686A, (nmr)

Trost, B.M. *et al.*, *J.A.C.S.*, 1979, **101**, 6429; 1982, **104**, 6668, (synth, use, cycloaddns)

Willard, N. *et al.*, *Heterocycles*, 1985, **23**, 51, (synth, use, pmr)

Trost, B.M. *et al.*, *Tet. Lett.*, 1986, **27**, 1445; 5971, (use, addn to aldehydes)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1988, **13**, 3; 1989, **14**, 332, (use)

Trost, B.M. *et al.*, *J.O.C.*, 1988, **53**, 4887, (synth, cmr, pmr)