



>>Entry Name: Triphenylvinylphosphonium(1+)

Synonym(s): Ethenyltriphenylphosphonium(1+), 9Cl. Vinyltriphenylphosphonium(1+). Schweizer's reagent

CAS Registry Number: 38066-33-0

Related CAS Registry Numbers(s): 54580-72-2

$\text{Ph}_3\text{P}^{(+)}\text{CH}=\text{CH}_2$

Molecular Formula: $\text{C}_{20}\text{H}_{18}\text{P}^{(+)}$

Molecular Weight: 289.336

Accurate Mass: 289.114612

Percentage Composition: C 83.02%; H 6.27%; P 10.71%

Use/Importance: Used in heterocycle synth.

>>Derivative: Bromide

CAS Registry Number: 5044-52-0

Molecular Formula: $\text{C}_{20}\text{H}_{18}\text{BrP}$

Molecular Weight: 369.24

Accurate Mass: 368.052948

Percentage Composition: C 65.06%; H 4.91%; Br 21.64%; P 8.39%

Use/Importance: Reagent for the stereoselective synth. of (*E*)-allylamines and of (*E*)-acrylic acids from aldehydes. Employed in steroid synth., synth. of thiophenes, and in Diels-Alder reactions

Physical Description: Cryst. (EtOAc)

Melting Point: Mp 186-190°

Hazard & Toxicity: Produces an allergic sneezing reaction

Aldrich: 15019-3

Fluka: 93155

>>Derivative: Perchlorate

CAS Registry Number: 116178-86-0

Molecular Formula: $\text{C}_{20}\text{H}_{18}\text{ClO}_4\text{P}$

Molecular Weight: 388.786

Accurate Mass: 388.063124

Percentage Composition: C 61.79%; H 4.67%; Cl 9.12%; O 16.46%; P 7.97%

Physical Description: Cryst. ($\text{CH}_2\text{Cl}_2/\text{Et}_2\text{O}$)

Melting Point: Mp 134-136°

References:

Aldrich Library of ^{13}C and ^1H FT NMR Spectra, 1992, **2**, 1668C, (*nmr*)

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **2**, 545B, (*ir*)

Schweizer, E.E. *et al.*, *J.O.C.*, 1964, **29**, 1746, (*synth, pmr*)

Swan, J.M. *et al.*, *Aust. J. Chem.*, 1971, **24**, 777, (*synth, props*)

Wood, G.W. *et al.*, *J.O.C.*, 1975, **40**, 636, (*ms*)

Albright, T.A. *et al.*, *J.O.C.*, 1975, **40**, 3437, (*cmr, P-31 nmr*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 666; **7**, 235; **10**, 316; **11**, 596; **12**, 11; **13**, 343, (*use, bromide*)

Kampmeier, J.A. *et al.*, *J.A.C.S.*, 1981, **103**, 1478, (*pmr, ir*)

Meyers, A.I. *et al.*, *J.O.C.*, 1981, **46**, 3119, (*synth, pmr, use*)

Posner, G.H. *et al.*, *Tetrahedron*, 1981, **37**, 3921, (*use*)

Posner, G.H. *et al.*, *J.A.C.S.*, 1985, **107**, 1424, (*use, bromide*)

Just, G. *et al.*, *Tet. Lett.*, 1985, **26**, 1799, (*use, bromide*)

Ohmari, H. *et al.*, *Chem. Pharm. Bull.*, 1987, **35**, 4960, (*perchlorate*)

Udseth, H.R. *et al.*, *Anal. Chem.*, 1989, **61**, 228, (*ms*)