



>>Entry Name: Tris[2-(diphenylphosphino)ethyl]phosphine, 9Cl

Synonym(s): Tetraphos-2

CAS Registry Number: 23582-03-8

$P(CH_2CH_2PPh_2)_3$

Molecular Formula: $C_{42}H_{42}P_4$

Molecular Weight: 670.689

Accurate Mass: 670.223698

Percentage Composition: C 75.22%; H 6.31%; P 18.47%

Use/Importance: Ligand for V, Cr, Mn, Cu and metals of Group VIII

Physical Description: Air-stable cryst.

Melting Point: Mp 129°

Aldrich: 32769-7

>>Derivative: Tetraoxide

CAS Registry Number: 23725-53-3

Molecular Formula: $C_{42}H_{42}O_4P_4$

Molecular Weight: 734.686

Accurate Mass: 734.203358

Percentage Composition: C 68.66%; H 5.76%; O 8.71%; P 16.86%

Physical Description: Cryst. (xylene/MeOH)

Melting Point: Mp 204-206°. Mp 216-217 dec.°

Solubility: Insol. Et_2O , C_6H_6

>>Derivative: Tetrasulfide

Molecular Formula: $C_{42}H_{42}P_4S_4$

Molecular Weight: 798.953

Accurate Mass: 798.111978

Percentage Composition: C 63.14%; H 5.30%; P 15.51%; S 16.05%

Physical Description: Cryst. (CH_2Cl_2 /hexane)

Melting Point: Mp 207-208 dec.°

Solubility: Insol. Et_2O , MeOH

>>Derivative: Tetraselenide

CAS Registry Number: 134649-09-5

Molecular Formula: $C_{42}H_{42}P_4Se_4$

Molecular Weight: 986.529

Accurate Mass: 989.889778

Percentage Composition: C 51.14%; H 4.29%; P 12.56%; Se 32.02%

Physical Description: Solid

Other Data: Characterised spectroscopically. Dec. at 200-220°

References:

- Aldrich Library of ^{13}C and 1H FT NMR Spectra*, 1992, **2**, 1658B, (*nmr*)
King, R.B. *et al.*, *J.A.C.S.*, 1971, **93**, 4153, (*synth, ir, pmr, P-31 nmr*)
Maier, *Phosphorus Relat. Group V Elem.*, 1972, **1**, 245, (*oxide, pmr, P-31 nmr*)
King, R.B. *et al.*, *Phosphorus Relat. Group V Elem.*, 1974, **3**, 209, (*pmr, P-31 nmr, derivs*)
King, R.B. *et al.*, *Inorg. Chem.*, 1975, **14**, 1550, (*P-31 nmr, complexes*)
King, R.B., *Adv. Chem. Ser.*, 1982, **196**, 313, (*rev*)
Colton, R. *et al.*, *Aust. J. Chem.*, 1991, **44**, 525, (*selenides, synth, P-31 nmr, Se-77 nmr*)