



>>Entry Name: Tetrakis(triphenylphosphine)platinum(0), 9CI

CAS Registry Number: 14221-02-4

Pt(PPh₃)₄ (*T_d*)

Molecular Formula: C₇₂H₆₀P₄Pt

Molecular Weight: 1244.241

Accurate Mass: 1243.329314

Percentage Composition: C 69.50%; H 4.86%; P 9.96%; Pt 15.68%

Source/Synthesis: Synth. from K₂(PtCl₄), KOH, PPh₃, and EtOH

Use/Importance: Commercially available. Catalyses hydrosilylation of olefins, cleavage of Si-C bonds, vulcanisation of silicone rubbers, carbonylation, hydrogenation and isom. of alkenes, and oxidations of organomercurials. Useful synth. intermed. for other Pt compounds

Physical Description: Air- and light-sensitive yellow solid

Melting Point: Mp 159-160 *in vacuo*°. Mp 118-120 dec.° (in air)

Other Data: Dissoc. in C₆H₆, giving Tris(triphenylphosphine)platinum(0) [JRL40-W](#). Reacts with CCl₄

Aldrich: 24496-1

Fluka: 87647

References:

McAvoy, J. *et al.*, *J.C.S.*, 1965, 1376, (*props*)

Inorg. Synth., 1968, **11**, 105, (*synth, ir*)

Adams, D.M. *et al.*, *J.C.S.(A)*, 1969, 588, (*ir*)

Riggs, W.M., *Anal. Chem.*, 1972, **44**, 830, (*pe*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **3**, 2017, (*synth*)

Sen, A. *et al.*, *Inorg. Chem.*, 1980, **19**, 1073, (*P-31 nmr, props, synth*)

Crayston, J.A. *et al.*, *Spectrochim. Acta A*, 1986, **42**, 1311, (*ir, Raman*)

Synthetic Methods of Organometallic and Inorganic Chemistry, (ed. Hermann, W.A.), Thieme, 1996, **1**, 166; 1997, **7**, 77-78, (*synth*)