



>>Entry Name: **Bis(diphenylphosphino)methane**

Synonym(s): Methylenebis[diphenylphosphine], 9CI

CAS Registry Number: 2071-20-7

$\text{Ph}_2\text{PCH}_2\text{PPh}_2$

Molecular Formula: $\text{C}_{25}\text{H}_{22}\text{P}_2$

Molecular Weight: 384.396

Accurate Mass: 384.119674

Percentage Composition: C 78.12%; H 5.77%; P 16.12%

Use/Importance: Ligand for metals of Groups IB, VIB and VIII. Used as a 0.025*M* soln. in CHCl_3 for extraction sepn. of Am, Bk, Cf, Cm, Eu

Physical Description: Air-stable cryst. (EtOH or $\text{C}_6\text{H}_6/\text{Me}_2\text{CO}$)

Melting Point: Mp 122°

Solubility: Sol. common org. solvs.

Other Data: Cleaved by PhN_3

Aldrich: 12756-6

Fluka: 14818

>>Derivative: Monoxide

Synonym(s): Diphenyl[(diphenylphosphinyl)methyl]phosphine

CAS Registry Number: 23176-18-3

Molecular Formula: $\text{C}_{25}\text{H}_{22}\text{OP}_2$

Molecular Weight: 400.396

Accurate Mass: 400.114589

Percentage Composition: C 74.99%; H 5.54%; O 4.00%; P 15.47%

Use/Importance: Ligand for Pt, Pd

Physical Description: Prisms (DMF)

Melting Point: Mp 187.5-188.5°

>>Derivative: Dioxide

Synonym(s): Bis(diphenylphosphinyl)methane

CAS Registry Number: 2071-21-8

Molecular Formula: $\text{C}_{25}\text{H}_{22}\text{O}_2\text{P}_2$

Molecular Weight: 416.395

Accurate Mass: 416.109504

Percentage Composition: C 72.11%; H 5.33%; O 7.68%; P 14.88%

Use/Importance: Ni complex used in hydrosilylation of alkenes

Physical Description: Solid

Melting Point: Mp 178-179°

pKa Value: $\text{p}K_a$ 6.23 (MeNO_2)

>>Derivative: Monosulfide

Synonym(s): Diphenyl[(diphenylphosphinothioyl)methyl]phosphine

CAS Registry Number: 54006-28-9

Molecular Formula: $\text{C}_{25}\text{H}_{22}\text{P}_2\text{S}$

Molecular Weight: 416.462

Accurate Mass: 416.091744

Percentage Composition: C 72.10%; H 5.32%; P 14.87%; S 7.70%

Use/Importance: Ligand for Cd, Hg, Pd