



>>Entry Name: **1,2-Bis(diphenylphosphino)ethylene**

Synonym(s): 1,2-Ethenediylbis[diphenylphosphine], 9CI. 1,2-Vinylenebis[diphenylphosphine]

CAS Registry Number: 17427-91-7

Related CAS Registry Numbers(s): 40812-18-8

$\text{Ph}_2\text{PCH=CHPPh}_2$

Molecular Formula: $\text{C}_{26}\text{H}_{22}\text{P}_2$

Molecular Weight: 396.407

Accurate Mass: 396.119674

Percentage Composition: C 78.78%; H 5.59%; P 15.63%

Use/Importance: Ligand forming complexes contg. metals of groups IB, VIB, VIIB, and VIII

>>Variant: (*E*)-form

CAS Registry Number: 983-81-3

Molecular Formula: $\text{C}_{26}\text{H}_{22}\text{P}_2$

Molecular Weight: 396.407

Accurate Mass: 396.119674

Percentage Composition: C 78.78%; H 5.59%; P 15.63%

Use/Importance: Ligand for Au

Physical Description: Air-stable cryst. (EtOH)

Melting Point: Mp 114°. Mp 125-126°

Aldrich: 28797-0

>>Derivative: *P,P'*-Dioxide

CAS Registry Number: 40612-18-8

Molecular Formula: $\text{C}_{26}\text{H}_{22}\text{O}_2\text{P}_2$

Molecular Weight: 428.406

Accurate Mass: 428.109504

Percentage Composition: C 72.89%; H 5.18%; O 7.47%; P 14.46%

Use/Importance: Used as a 0.025*M* soln. in CHCl_3 for extraction-separation of Am, Bk, Cf, Cm, Eu

Melting Point: Mp 310-311°

pKa Value: $\text{p}K_{\text{a}1}$ 1.7; $\text{p}K_{\text{a}2}$ 1.7

>>Derivative: *P,P'*-Disulfide

CAS Registry Number: 986-07-2

Molecular Formula: $\text{C}_{26}\text{H}_{22}\text{P}_2\text{S}_2$

Molecular Weight: 460.539

Accurate Mass: 460.063814

Percentage Composition: C 67.81%; H 4.81%; P 13.45%; S 13.93%

Physical Description: Cryst. (EtOH aq.)

Melting Point: Mp 196-197°

>>Variant: (*Z*)-form

CAS Registry Number: 983-80-2

Molecular Formula: $\text{C}_{26}\text{H}_{22}\text{P}_2$

Molecular Weight: 396.407

Accurate Mass: 396.119674

Percentage Composition: C 78.78%; H 5.59%; P 15.63%

Physical Description: Air-stable cryst.

Melting Point: Mp 125-126°

Aldrich: 32764-6

>>Derivative: *P,P'*-Dioxide

CAS Registry Number: 40468-55-1

Melting Point: Mp 244-245°

pKa Value: $\text{p}K_{\text{a}1}$ 7.8 (conj. acid, MeNO_2)