



>>>**Entry Name:** Triphenylstibine, 9CI

Synonym(s): Triphenylantimony

CAS Registry Number: 603-36-1

SbPh₃

Molecular Formula: C₁₈H₁₅Sb

Molecular Weight: 353.066

Accurate Mass: 352.021196

Percentage Composition: C 61.23%; H 4.28%; Sb 34.48%

Source/Synthesis: Synth. from SbCl₃ and PhLi or PhMgBr

Use/Importance: Antioxidant; antifoggant; catalyst for alkylation, dimerisation and polym. reactions; co-catalyst with TaCl₅ for alkyne polym. and with MoCl₅ for polym. of PhC≡CCl; activator for PdCl₂/CuI/I₂ catalysed homocoupling of (PhC≡C)₂Mg to diphenylbutadiyne; with TiCl₄ and Na, catalyst for polym. of 1-alkenes; converts Br₂ C(COOMe)₂ → BrCH(COOMe)₂; promotes Reformatsky reaction of α-halo esters with aldehydes; affects cyclopropanation of enones and unsatd. esters by Br₂C(COOR)₂ but in low yield; ligand for many heavy metals

Physical Description: Prisms (EtOH, petrol, or Me₂CO aq.)

Melting Point: Mp 53-57° (52-54°, 50°)

Boiling Point: Bp 377° (extrap.). Bp₁₀ 220°. Bp_{0.3} 185°

Other Data: With Pd(OAc)₂/Et₃N yields biphenyl. V. reactive to halogens: Cl₂ → Dichlorotriphenylantimony [GGN65-L](#), F₂ → Difluorotriphenylantimony [FLF12-D](#), Br₂ → Dibromotriphenylantimony [FKS68-E](#). Forms loose complex with I₂. With Ph₅Bi, yields Ph₅Sb. C-Sb bond cleaved by H₂/Raney Ni. In EtOH or C₆H₆, SeO₂ → Ph₃SbSe.SeO₂. Forms (Ph₃Sb)₃Pt complex

Hazard & Toxicity: Toxic

Aldrich: T8180-9

Fluka: 92940

Sigma: T3532

>>>**Derivative:** Oxide

>>>**Derivative:** Sulfide

>>>**Derivative:** Selenide: SeO₂ complex (1:1)

Molecular Formula: C₁₈H₁₅O₂SbSe₂

Molecular Weight: 542.985

Accurate Mass: 543.844066

Percentage Composition: C 39.82%; H 2.78%; O 5.89%; Sb 22.42%; Se 29.08%

Physical Description: Cryst. (C₆H₆/petrol)

Melting Point: Mp 235-237°

References: