>>**Entry Name: Dichlorotriphenylantimony,** 9Cl
**Synonym(s):** Dichlorotriphenylstiborane. Triphenylantimony dichloride

**CAS Registry Number:** 594-31-0
**Related CAS Registry Numbers(s):** 34716-91-1

$Ph_3SbCl_2$

**Molecular Formula:** $C_{18}H_{15}Cl_2Sb$
**Molecular Weight:** 423.972
**Accurate Mass:** 421.9589
**Percentage Composition:** C 50.99%; H 3.57%; Cl 16.72%; Sb 28.72%
**General Statement:** Possesses tbp struct. with axial Sb-Cl, 250.0 pm (mean) and equatorial Sb-Ph bonds, Sb-C 208.4-210.6 pm
**Source/Synthesis:** Synth. from $Ph_3Sb + Cl_2$ or $SO_2Cl_2$, or $Ph_3Sb + CuCl_2$, or $Ph_2Hg + SbCl_5$
**Use/Importance:** Bactericide, fungicide. Catalyses reaction of aziridines with $CS_2$ → 1,3-thiazolidine-2-thiones
**Physical Description:** Cryst. (MeOH, EtOH/$CHCl_3$ or cyclohexane/MeOH)
**Melting Point:** Mp 143°
**Other Data:** With $Pd(OAc)_2/NEt_3$ → biphenyl. With $Na_2S_2O_3$ → Triphenylstibine sulfide BNK23-C. Relatively unreactive to boiling $H_2O$. $RSH/NH_3$ → $Ph_3Sb$
**Hazard & Toxicity:** $LD_{50}$ (rat, orl) 195 mg/kg

**Aldrich:** 13509-7
**Rare Chemicals Library:** S44531-2

>>**Derivative:** $SbCl_3$ complex (1:1)

**Molecular Formula:** $C_{18}H_{15}Cl_5Sb_2$
**Molecular Weight:** 652.08
**Accurate Mass:** 647.769277
**Percentage Composition:** C 33.16%; H 2.32%; Cl 27.18%; Sb 37.34%
**Physical Description:** Cryst. ($CCl_4$)
**Melting Point:** Mp 126°

>>**Derivative:** $SbBr_3$ complex (1:1)

**Molecular Formula:** $C_{18}H_{15}Br_3Cl_2Sb_2$
**Molecular Weight:** 785.434
**Accurate Mass:** 779.677729
**Percentage Composition:** C 27.53%; H 1.92%; Br 30.52%; Cl 9.03%; Sb 31.00%
**Physical Description:** Cryst.
**Melting Point:** Mp 112°
**Solubility:** Insol. $CHCl_3$

**References:**


*Aldrich Library of Infrared Spectra, 3rd edn.*, 1981, 1559D, *(ir)*
*Aldrich Library of NMR Spectra, 2nd edn.*, 1983, **2**, 1020A, *(nmr)*
Rao, C.N.R. *et al.*, *Can. J. Chem.*, 1961, **39**, 171, *(uv)*
Jensen, A.K. *et al.*, *Acta Chem. Scand.*, 1963, **17**, 1875, *(ir)*
Polynova, T.N. *et al.*, *Zh. Strukt. Khim.*, 1966, **7**, 742; *J. Struct. Chem. (Engl. Transl.)*, 1966, **7**, 691, *(struct)*
Banister, A.J. *et al.*, *J.C.S.(A)*, 1968, 1137, *(synth)*
Long, G.G. *et al.*, *J.A.C.S.*, 1970, **92**, 4230, *(Mössbauer)*
Preiss, H.*, Z. Anorg. Allg. Chem.*, 1972, **389**, 280, *(ms)*
Gukasyan, S.E. *et al.*, *Zh. Strukt. Khim.*, 1973, **14**, 650; *J. Struct. Chem. (Engl. Transl.)*, 1973, **14**, 603, *(Mössbauer)*
Ouchi, A. *et al.*, *J. Inorg. Nucl. Chem.*, 1975, **37**, 2347, *(cmr, pmr)*
Nevett, B.A. *et al.*, *Spectrochim. Acta A*, 1977, **33**, 755, *(ir, Raman)*
Carraher, C.E. *et al.*, *Angew. Makromol. Chem.*, 1979, **83**, 37
Hoste, S. *et al.*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191, *(pe)*
Raynier, B. *et al.*, *Nouv. J. Chim.*, 1979, **3**, 393, *(synth, pmr)*
Havranek, J. *et al.*, *CA*, 1981, **95**, 212464, *(cmr)*
Hall, M. *et al.*, *J.C.S. Dalton*, 1983, 1095, *(complexes, cryst struct, ir)*
Yanaga, M. *et al.*, *Bull. Chem. Soc. Jpn.*, 1986, **59**, 3085, *(cmr, Mössbauer)*
Nomura, R. *et al.*, *Chem. Ber.*, 1989, **122**, 2407, *(use, cycloaddn of aziridines and $CS_2$)*
Bone, S.B. *et al.*, *J.C.S. Dalton*, 1992, 2085, *(ms)*
Begley, M.J. *et al.*, *Acta Cryst. C*, 1993, **49**, 1044, *(cryst struct)*
Lewis, R.J.*, Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold*, 1992, DGO800