



>>Entry Name: Dibromotriphenylantimony, 9CI

Synonym(s): Dibromotriphenylstiborane. Triphenylstibine dibromide

CAS Registry Number: 1538-59-6

Related CAS Registry Numbers(s): 34716-92-2

Ph_3SbBr_2

Molecular Formula: $\text{C}_{18}\text{H}_{15}\text{Br}_2\text{Sb}$

Molecular Weight: 512.874

Accurate Mass: 509.897868

Percentage Composition: C 42.15%; H 2.95%; Br 31.16%; Sb 23.74%

General Statement: Possesses *tbp* geometry with axial Sb-Br (263.2 pm) and equatorial Sb-C (211.5 pm)

Source/Synthesis: Synth. from Ph_3Sb and Br_2 , HgBr_2 or CuBr_2

Use/Importance: Catalyses reactions between epoxides and $\text{CO}_2 \rightarrow$ cyclic carbonates and reactions between aziridines and heterocumulenes (CO_2 , CS_2 , isocyanates).

Oxidises α -hydroxy ketones to diones in the presence of base

Physical Description: Cryst. (MeOH, C_6H_6 /petrol or CHCl_3)

Melting Point: Mp 212-214°

Other Data: At 180° $\rightarrow$ PhBr + PhSbBr_2

Rare Chemicals Library: S94058-5

References:

- Doak, G.O. *et al.*, *J. Organomet. Chem.*, 1965, **4**, 82, (*synth, ir*)
Moreland, C.G. *et al.*, *Inorg. Chem.*, 1968, **7**, 834, (*pmr*)
Svergun, V.I. *et al.*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1970, 484; *Bull. Acad. Sci. USSR, Div. Chem. Sci. (Engl. Transl.)*, 1970, 443, (*nqr*)
Long, G.G. *et al.*, *J.A.C.S.*, 1970, **92**, 4230, (*Mössbauer*)
Goel, R.G. *et al.*, *Inorg. Chem.*, 1971, **10**, 2572, (*ir, Raman*)
Preiss, H. *et al.*, *Z. Anorg. Allg. Chem.*, 1972, **389**, 280, (*ms*)
Ouchi, A. *et al.*, *J. Inorg. Nucl. Chem.*, 1975, **37**, 2347, (*pmr, cmr*)
Birchall, T. *et al.*, *J.C.S. Dalton*, 1975, 2003, (*pe*)
Nevett, B.A. *et al.*, *Spectrochim. Acta A*, 1977, **33**, 755, (*ir, Raman*)
Bhattacharya, S.N. *et al.*, *Indian J. Chem., Sect. A*, 1979, **18**, 515, (*synth*)
Severengiz, T. *et al.*, *Chem.-Ztg.*, 1980, **104**, 202, (*synth, pmr*)
Hall, M. *et al.*, *J.C.S. Dalton*, 1983, 1095, (*complexes*)
Akiba, K. *et al.*, *Chem. Lett.*, 1985, 1577, (*use, oxidn of α -hydroxyketones*)
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 heterocumulenes*)
Begley, M.J. *et al.*, *Acta Cryst. C*, 1993, **49**, 1044, (*cryst struct*)