>>**Entry Name: Antimony chloride ($SbCl_3$),** 8Cl
ENTRY UNDER REVIEW
Synonym(s): Trichlorostibine, 9Cl. Antimony(*III*) trichloride. Trichloroantimony(*III*). Antimonous chloride

CAS Registry Number: 10025-91-9
$SbCl_3$

Molecular Formula: Cl_3Sb
Molecular Weight: 228.108
Accurate Mass: 225.810377
Percentage Composition: Cl 46.63%; Sb 53.37%
General Statement: Orthorhombic, discrete pyramidal molecules, with h.c.p. of Cl's in cryst.: Sb-Cl 235 (mean short), 345.7-373.6 (long) pm. In vap., pyramidal molecules having Sb-Cl 233 pm, angle ClSbCl 97.2°
Source/Synthesis: Synth. from Sb_2S_3 + $HgCl_2$, NaCl, or HCl, also from Sb + Cl_2
Use/Importance: Commercially available. Used as solv. and as a mordant
Physical Description: Colourless, hygroscopic cryst. which fume in air
Boiling Point: Bp 219°. Bp_{70} 143-144°. Bp_{23} 113°
Solubility: Sol. cold EtOH, CS_2, Et_2O, CCl_4 and H_2O (small amounts); insol. Py, quinoline, other org. bases
Other Data: Diln. of aq. soln. → Antimony chloride oxide (SbClO) HTG60-V. Can be distilled (under H_2) without dec. Reacts with Cl_2 → Antimony chloride ($SbCl_5$) HTF88-E and vigorously with F_2 → Antimony fluoride (SbF_3) HTG03-G. A Lewis acid forming adducts with Lewis bases e.g. aromatic hydrocarbons and derivs. Many complexes formed with other Group V halides and metal fluorides e.g. of Group I. ΔH_f° –382 kJ mol^{-1}. Reactive to O, S and N nucleophilic compds. → Sb-O, Sb-S, or Sb-N compds. With Grignard reagents or other carbanionic species → organo Sb compds. NH_3 and aromatic amines can also give adducts
Hazard & Toxicity: Highly corrosive. Poisonous. Irritant. Can react violently with Al, K, Na

Aldrich: 31137-5
Fluka: 10775
Sigma: A4461

>>**Derivative:** 12-Crown-4-complex (1:1)

Molecular Formula: $C_8H_{16}Cl_3O_4Sb$
Molecular Weight: 404.32
Accurate Mass: 401.915237
Percentage Composition: C 23.77%; H 3.99%; Cl 26.31%; O 15.83%; Sb 30.11%
Physical Description: Cryst.

>>**Derivative:** Mesitylene complex (1:1)
Synonym(s): Trichloro(1,3,5-trimethylbenzene)antimony(*III*)

CAS Registry Number: 13049-05-3
Molecular Formula: $C_9H_{12}Cl_3Sb$
Molecular Weight: 348.302
Accurate Mass: 345.904277
Percentage Composition: C 31.04%; H 3.47%; Cl 30.54%; Sb 34.96%
Physical Description: Colourless cryst.
Melting Point: Mp 40-41°

>>**Derivative:** Mesitylene complex (2:1)
Synonym(s): (1,3,5-Trimethylbenzene)bis[trichloroantimony(*III*)]

Molecular Formula: $C_9H_{12}Cl_6Sb_2$
Molecular Weight: 576.41
Accurate Mass: 571.714654
Percentage Composition: C 18.75%; H 2.10%; Cl 36.90%; Sb 42.24%
Physical Description: Cryst.
Melting Point: Mp 75°

>>**Derivative:** Hexamethylbenzene complex (2:1)
Synonym(s): (Hexamethylbenzene)bis[trichloroantimony(*III*)]

CAS Registry Number: 59652-04-9
Molecular Formula: $C_{12}H_{18}Cl_6Sb_2$
Molecular Weight: 618.49
Accurate Mass: 613.761604
Percentage Composition: C 23.30%; H 2.93%; Cl 34.39%; Sb 39.37%
Physical Description: Tetragonal colourless cryst.
Melting Point: Mp 185°