



>>>Entry Name: Antimony(III) bromide (SbBr₃), 8Cl

Synonym(s): Tribromostibine, 9Cl. Tribromoantimony(III). Antimonous bromide

CAS Registry Number: 7789-61-9

SbBr₃

Molecular Formula: Br₃Sb

Molecular Weight: 361.462

Accurate Mass: 357.718829

Percentage Composition: Br 66.32%; Sb 33.68%

Source/Synthesis: Synth. from Sb + Br₂; SbCl₃ or Sb₂O₃ + BBr₃

Physical Description: Hygroscopic white cryst. becoming amber yellow when fused

Melting Point: Mp 96°

Boiling Point: Bp 288°. Bp₂ 135°

Solubility: Sol. H₂O, dil. HCl, HBr, CS₂, Me₂CO, C₆H₆, CHCl₃

Other Data: ΔH_f° -259 kJ mol⁻¹. Dec. in H₂O, EtOH, light. A Lewis acid, forming adducts with Lewis bases e.g. aromatic hydrocarbons, NH₃, amines, Br⁽⁻⁾. Reactive to O, N and S nucleophilic reagents, as well as carbanionic reagents e.g. alkyl(aryl)lithiums and Grignard reagents. Forms complex bromides with bromides of other metals e.g. those of Group I

Hazard & Toxicity: Poison. Corrosive, can cause severe burns

Aldrich: 33904-0

>>>Derivative: Benzene complex (2:1)

Synonym(s): (Benzene)bis[tribromoantimony(III)]

Molecular Formula: C₆H₆Br₆Sb₂

Molecular Weight: 801.037

Accurate Mass: 793.484608

Percentage Composition: C 9.00%; H 0.75%; Br 59.85%; Sb 30.40%

Physical Description: Monoclinic cryst.

Melting Point: Mp 93°

>>>Derivative: Mesitylene complex (1:1)

Synonym(s): Tribromo(1,3,5-trimethylbenzene)antimony(III)

CAS Registry Number: 35075-49-1

Molecular Formula: C₉H₁₂Br₃Sb

Molecular Weight: 481.656

Accurate Mass: 477.812729

Percentage Composition: C 22.44%; H 2.51%; Br 49.77%; Sb 25.28%

Physical Description: Colourless trigonal cryst.

Melting Point: Mp 56-58°

>>>Derivative: Hexamethylbenzene complex (2:1)

Synonym(s): (Hexamethylbenzene)bis[tribromoantimony(III)]

CAS Registry Number: 110296-09-8

Molecular Formula: C₁₂H₁₈Br₆Sb₂

Molecular Weight: 885.198

Accurate Mass: 877.578508

Percentage Composition: C 16.28%; H 2.05%; Br 54.16%; Sb 27.51%

Physical Description: Colourless tetragonal cryst.

Melting Point: Mp 145°

>>>Derivative: Biphenyl complex (2:1)

Synonym(s): (Biphenyl)bis[tribromoantimony(III)]

CAS Registry Number: 15068-72-1

Molecular Formula: C₁₂H₁₀Br₆Sb₂

Molecular Weight: 877.135

Accurate Mass: 869.515908

Percentage Composition: C 16.43%; H 1.15%; Br 54.66%; Sb 27.76%

Physical Description: Cryst.

Melting Point: Mp 60.5°