>>**Entry Name: Antimony sulfide (Sb_2S_3),** 9CI, 8CI
Synonym(s): Diantimony trisulfide. Antimony(*III*) sulfide. Antimony trisulfide (incorr.). Gray antimony. Antimonous sulfide. Lupus metallorum

CAS Registry Number: 1345-04-6
Sb_2S_3

Molecular Formula: S_3Sb_2
Molecular Weight: 339.698
Accurate Mass: 337.723852
Percentage Composition: S 28.32%; Sb 71.68%
General Statement: Struct. comprises $(Sb_4S_6)_x$ chains linked to form crumpled sheets. Sb(*III*) atoms are each bonded to 3 sulfur atoms at corners of basal plane of sl. distorted trigonal pyramid with Sb-S 252.1, 253.9 pm. Other sulfur atoms are at 311.1-364.2 pm from Sb. A Sb(*V*) atom is below the centre of the basal plane of a distorted sq. pyramid and is bonded to 5 sulfur atoms at the corners of the sq. pyramid. Sb-S 245.5-285.4 pm. May exist as crystalline or amorphous forms
Source/Synthesis: Synth. from Sb + S; or from SbX_3 + thiourea
Use/Importance: Used in photoelectric devices, electrophotographic recording materials
Melting Point: Mp 563°
Boiling Point: Bp 1150°
Other Data: Sol. Na_2S soln. Stable at pH 3-8, and up to 450-500°. Ferroelectric semiconductor. Oxid. to Senarmontite (Sb_2O_3) by *Thiobacillus ferroxidans*. ΔH_f° –141.8 kJ mol^{-1}

Aldrich: 24456-2
Fluka: 10786

>>**Variant:** Mineral-form
Synonym(s): Stibnite. Antimonite. Platyophthalmite

CAS Registry Number: 1317-86-8
Molecular Formula: S_3Sb_2
Molecular Weight: 339.698
Percentage Composition: S 28.32%; Sb 71.68%
Source/Synthesis: Associated with Au ores. Occurs in parts of the USSR, North Africa, China, Europe (Italy, Bulgaria, Czechoslovakia)

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