



>>Entry Name: Silver(I) selenide (Ag₂Se)

Synonym(s): Disilver selendide

CAS Registry Number: 1302-09-6

Ag₂Se

Molecular Formula: Ag₂Se

Molecular Weight: 294.696

Accurate Mass: 293.726704

Use/Importance: Commercially available

Physical Description: Grey, hexagonal, microscopic needles

Melting Point: Mp 880°

Solubility: Insol. H₂O

Other Data: Diamagnetic. Forms metallic silver and selenium oxide when heated in oxygen. $\Delta H_f^\circ -12.8 \text{ kJ mol}^{-1}$

Aldrich: 40063-7

>>Variant: Mineral-form

Synonym(s): Naumannite

Molecular Formula: Ag₂Se

Molecular Weight: 294.696

Accurate Mass: 293.726704

Percentage Composition: Ag 73.21%; Se 26.79%

Source/Synthesis: Occurs in e.g. USA, Argentina, Germany assoc. with similar minerals

Physical Description: Greyish black opaque cubes; tarnishes→brown

References:

Pélabon, H., *Ann. Chim. Phys.*, 1902, **25**, 365, (*synth*)

Tubandt, C. *et al.*, *Z. Elektrochem.*, 1933, **39**, 227, (*synth*)

Tubandt, C. *et al.*, *Z. Phys. Chem., Abt. B*, 1934, **24**, 22, (*conductivity*)

Sander, W., *Z. Phys.*, 1960, **159**, 456, (*ir*)

Wiegers, G.A., *Am. Mineral.*, 1971, **56**, 1882, (*cryst struct*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **3**, 1000, (*synth*)

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