

Crystal Data: Hexagonal. *Point Group:* $3m$. Crystals commonly prismatic || [0001], showing hemimorphism, typically with prominent development of rhombohedra; also steep scalenohedra with {05 $\bar{5}$ 1}, to 6 cm; massive, granular. *Twinning:* On {10 $\bar{1}$ 4} as twins of complex aggregates of individuals and as lamellar twins; less commonly on {10 $\bar{1}$ 1} and about [11 $\bar{2}$ 0]; rarely on {01 $\bar{1}$ 2}.

Physical Properties: *Cleavage:* Distinct on {10 $\bar{1}$ 1}, very imperfect on {01 $\bar{1}$ 2}. *Fracture:* Conchoidal to uneven. *Tenacity:* Brittle. Hardness = 2.5 VHN = n.d. D(meas.) = 5.82 D(calc.) = 5.855

Optical Properties: Translucent, darkens with exposure to light. *Color:* Deep red. *Streak:* Purplish red. *Luster:* Adamantine.

Optical Class: Uniaxial (-). *Pleochroism:* Distinct in air. $\omega = 3.084$ (Li). $\epsilon = 2.881$ (Li).

Anisotropism: Strong, in pale yellow and gray-blue.

R_1 - R_2 : (400) 35.0-41.0, (420) 34.8-40.8, (440) 34.6-40.6, (460) 34.0-40.2, (480) 32.8-39.5, (500) 31.0-37.4, (520) 29.6-35.4, (540) 28.2-34.0, (560) 27.2-32.7, (580) 26.4-31.7, (600) 25.6-30.9, (620) 25.0-30.2, (640) 24.4-29.6, (660) 23.8-29.0, (680) 23.4-28.5, (700) 22.9-28.1

Cell Data: *Space Group:* $R3c$. $a = 11.047$ $c = 8.719$ $Z = 6$

X-ray Powder Pattern: Beaverdell, British Columbia, Canada. 2.79 (10) 3.21 (8), 3.35 (5), 2.58 (5), 2.54 (5), 1.965 (2), 1.870 (2)

Chemistry:	(1)	(2)	(3)
Ag	59.82	60.17	59.76
Sb	22.00	21.64	22.48
As	0.08	0.52	
S	17.82	17.65	17.76
Total	99.72	99.98	100.00

(1) Săcăriimb (Nagyág), Romania. (2) Freiberg, Germany. (3) Ag₃SbS₃.

Polymorphism & Series: Dimorphous with pyrostilpnite.

Occurrence: Formed in hydrothermal veins as a primary late-stage, low-temperature mineral; also formed by secondary processes.

Association: Silver, acanthite, tetrahedrite, other silver sulfosalts, calcite, dolomite, quartz.

Distribution: An important ore of silver, not uncommon in oxidized silver deposits, but rarely in fine specimens. In Germany, from the Harz Mountains, at St. Andreasberg; and in the Himmelsfürst mine, Erbisdorf, near Freiberg, Saxony. From Hiendelaencina, Guadalajara Province, Spain. At Jáchymov (Joachimsthal) and from Příbram, Czech Republic. In the USA, in Nevada, at the Comstock Lode, Virginia City, Storey Co., in the Hecla Rosebud mine, Rosebud district, Pershing Co., and from the Reese River district, Lander Co.; in Idaho, in the Poorman mine, Silver City district, Owyhee Co. In Canada, from Cobalt, Ontario. In Bolivia, at Colquechaca, Potosí. From many localities in Mexico, especially at Fresnillo, Zacatecas, and Guanajuato. From Chañarcillo, south of Copiapó, Atacama, Chile. At San Cristobal, Junin, and in the San Genaro mine, Huancavelica, Peru. From Broken Hill, New South Wales, Australia.

Name: From the Greek for *fire* and *silver*, in allusion to its composition and color.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 362-366. (2) Toulmin, P. (1963) Proustite-pyrrargyrite solid solutions. Amer. Mineral., 48, 725-736. (3) Engel, P. and W. Nowacki (1966) Die Verfeinerung der Kristallstruktur von Proustit, Ag₃AsS₃, und Pyrrargyrit, Ag₃SbS₃. Neues Jahrb. Mineral., Monatsh., 181-184 (in German). (4) Berry, L.G. and R.M. Thompson (1962) X-ray powder data for the ore minerals. Geol. Soc. Amer. Mem. 85, 123. (5) Ramdohr, P. (1969) The ore minerals and their intergrowths, (3rd edition), 774-777.

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