

Crystal Data: Orthorhombic. *Point Group:* *mm*2. Crystals prismatic by elongation || [001]; less commonly || [010], striated || [001], to 7 cm; massive. *Twinning:* On {101}; on {012}, forming cruciform penetration twins; also as trillings.

Physical Properties: *Cleavage:* Perfect on {010}, less so on {101}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 5 VHN = n.d. D(meas.) = 6.055 D(calc.) = 6.175

Optical Properties: Opaque. *Color:* Grayish tin-white to reddish silver-white. *Streak:* Black. *Luster:* Metallic. *Pleochroism:* Less distinct than for arsenopyrite. *Anisotropism:* Distinct, less strong than arsenopyrite.
R₁-R₂: (400) 47.9-52.0, (420) 48.3-51.8, (440) 48.7-51.6, (460) 49.1-51.5, (480) 49.4-51.4, (500) 49.6-51.3, (520) 49.9-51.2, (540) 50.2-51.1, (560) 50.5-51.1, (580) 50.6-51.0, (600) 50.7-50.9, (620) 51.0-50.7, (640) 51.1-50.6, (660) 51.1-50.5, (680) 51.1-50.5, (700) 51.6-50.5

Cell Data: *Space Group:* *Pn*2₁*m*. *a* = 14.158(1) *b* = 5.6462(4) *c* = 3.3196(2) *Z* = 6

X-ray Powder Pattern: Håkansböda, Sweden.
 2.72 (100), 1.827 (90), 2.45 (80), 2.42 (70), 1.125 (60), 1.006 (60), 0.981 (50)

Chemistry:	(1)	(2)
Co	16.68	11.99
Fe	19.60	22.72
Ni	trace	
As	44.01	45.72
S	20.18	19.57
<u>insol.</u>	<u>0.20</u>	<u> </u>
Total	100.67	100.00

(1) Håkansböda, Sweden. (2) (Co, Fe)AsS with Co:Fe = 2:1.

Polymorphism & Series: Dimorphous with alloclasite.

Mineral Group: Arsenopyrite group.

Occurrence: In deep-seated deposits of high-temperature hydrothermal origin.

Association: Cobaltite, pyrite, chalcopyrite.

Distribution: From Huasco, Tarapacá, Chile [TL]. In the USA, at the Standard Consolidated mine, Sumpter, Grant Co., Oregon, and at Franconia, Grafton Co., New Hampshire. From the Cobalt-Gowganda district, Ontario, Canada. In Sweden, at Håkansböda, Västmanland, as large twinned and untwinned crystals; also at Tunaberg, Södermanland. From Skutterud, Norway. At Oravița (Oravicza), Banat, Romania. From Gosenbach, North Rhine-Westphalia, Germany. In the Tynebottom mine, Garrigill, near Alston, Cumbria, England. From Tsumeb, Namibia. Numerous minor occurrences are known.

Name: From the Greek for *blue*, in reference to its use in the dark blue glass called smalt.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 322-325. (2) Ferguson, R.B. (1947) The unit cell of glaucodot. Univ. of Toronto Studies, Geol. Ser., 51, 41-47. (3) Kratz, T., H. Fuess, G. Miehe, and J. Töpel-schadt (1986) Strukturverfeinerung und Transmissionselektronenmikroskopie von Glaukodot (Fe, Co)(As, S). Fortschr. Mineral., 64(1), 86. (4) Yang, H. and R.T. Downs (2008) Crystal structure of glaucodot, (Co,Fe)AsS, and its relationships to marcasite and arsenopyrite. Amer. Mineral., 93, 1183-1186.