

Crystal Data: Hexagonal. *Point Group:* 3. *Twinning:* On {10 $\bar{1}$ 0} creates a pronounced $\bar{3}$ 1m pseudo-symmetry. As platy striated crystals to ~1 mm; in roselike aggregates.

Physical Properties: *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 2-3 VHN = 60 D(meas.) = 2.65(5) D(calc.) = 2.603 Nonfluorescent.

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (-). $\omega = 1.570(2)$ $\epsilon = 1.569(2)$

Cell Data: *Space Group:* P3. $a = 16.119(1)$ $c = 9.868(1)$ $Z = 6$

X-ray Powder Pattern: Brandholz-Goldkronach, Fichtelgebirge, Germany. Four strongest lines reported. Said to correspond closely to synthetic equivalent (PDF 40-335). 4.636 (100), 3.392 (70), 4.946 (50), 2.356 (40)

X-ray Powder Pattern: Pernek-Křížnica, near Pernek, Malé Karpaty Mountains, Slovak Republic. 4.650 (100), 3.383 (40), 1.7570 (22), 4.935 (21), 2.358 (21), 2.590 (20), 4.206 (18)

Chemistry:	(1)	(2)	(3)
MgO	6.7	5.77	6.9
CaO		0.26	
FeO		0.08	
Sb ₂ O ₅	55.0	56.39	55.8
H ₂ O	39.0	[37.53]	37.3
Total	100.7	100.00	100.0

(1) Synthetic material; Sb by atom absorption spectroscopy, Mg by flame emission spectroscopy, supplemented by IR spectroscopy, H₂O by TGA; corresponds to (MgO)_{0.97}(Sb₂O₅)_{0.99}(H₂O)_{12.56}.

(2) Pernek-Křížnica, Slovak Republic; average electron microprobe analysis, H₂O calculated from stoichiometry; corresponds to (Mg_{0.82}Ca_{0.03}Fe_{0.01}) $\Sigma=0.86$ (H₂O)_{6.00}[Sb(OH)₆]_{2.00}.

(3) MgSb₂(OH)₁₂·6H₂O.

Occurrence: From oxidized portions of hydrothermal gold-antimony-quartz veins.

Association: Stibnite and antimony-ochers (Brandholz-Goldkronach); roméite-like phases, sulfur, aragonite, gypsum, sénarmontite, Sb-rich Fe hydroxides (Pernek-Křížnica).

Distribution: From the Schmidten-Schacht and Jakobi-Schacht pits of the master lode (the Fürstzenzeche), Brandholz-Goldkronach mining district, Fichtelgebirge, Bavaria, Germany [TL]. From Pernek-Křížnica, near Pernek, Malé Karpaty Mountains, Slovak Republic. Reported from an abandoned antimony mine in Goesdorf, Luxembourg.

Name: For the occurrence in Germany in the *Brandholz*-Goldkronach mining district.

Type Material: Institute for Mineralogy and Crystallography, University of Vienna, Austria.

References: (1) Friedrich, A., M. Wildner, E. Tillmanns, and P.L. Merz (2000) Crystal chemistry of the new mineral brandholzite, Mg(H₂O)₆[Sb(OH)₆]₂, and of the synthetic analogues M²⁺(H₂O)₆[Sb(OH)₆]₂ (M²⁺ = Mg, Co). *Amer. Mineral.* 85(3-4), 593-599. (2) Sejkora J., D. Ozdín, and R. Ďud'a (2010) The supergene mineral association with brandholzite from Pernek, Malé Karpaty Mountains, Slovak Republic. *J. Geosciences*, 55, 149-160.