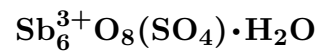


# Coquandite



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**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . Crystals lamellar, elongated along [001], very thin tabular on {010}, to 0.1 mm, showing {010}, {001}, {2 $\bar{1}$ 0}, and {1. $\bar{1}$ 2.0}. Fibrous, in feathery spheroidal aggregates; in thin crusts, powdery, massive. *Twining:* On {010} as twin plane, polysynthetic.

**Physical Properties:** *Tenacity:* Flexible. Hardness = n.d. D(meas.) = n.d. D(calc.) = 5.78

**Optical Properties:** Transparent to translucent. *Color:* Colorless, white. *Streak:* White. *Luster:* Adamantine to pearly. *Optical Class:* Biaxial (+); low birefringence. *Orientation:*  $Z \simeq c$ ; OAP || [001]; parallel extinction || {010}; length-slow.  $n = 2.08(5)$ .  $2V(\text{meas.}) = \gg 60^\circ$

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 11.434\text{--}11.449$   $b = 29.77\text{--}29.846$   $c = 11.314\text{--}11.337$   
 $\alpha = 91.07^\circ\text{--}91.16^\circ$   $\beta = 118.88^\circ\text{--}119.24^\circ$   $\gamma = 92.49^\circ\text{--}92.82^\circ$   $Z = 12$

**X-ray Powder Pattern:** Pereta mine, Italy.  
3.092 (100), 3.304 (93), 6.81 (67), 14.84 (50), 9.27 (41), 3.200 (39), 8.01 (34)

<b>Chemistry:</b>	(1)	(2)	(3)	(4)
Sb <sub>2</sub> O <sub>3</sub>	88.25	88.53	89.96	88.91
CaO	0.04	0.04	0.04	0.04
Na <sub>2</sub> O	0.02	0.02	0.05	0.03
H <sub>2</sub> O			1.43	1.43
SO <sub>3</sub>	8.35	8.33	8.38	8.35
Total			99.86	98.76

(1) Pereta mine, Italy; by electron microprobe, average of 10 analyses on three grains. (2) Cetine mine, Italy; by electron microprobe, average of four analyses on two grains. (3) Lucky Knock mine, Washington, USA; by electron microprobe, average of eight analyses on seven grains, H<sub>2</sub>O by elemental analyzer, confirmed by IR. (4) Average of (1-3); corresponding to Sb<sub>5.98</sub>Ca<sub>0.01</sub>Na<sub>0.01</sub>O<sub>7.96</sub>(SO<sub>4</sub>)<sub>1.02</sub>•0.78H<sub>2</sub>O.

**Occurrence:** Probably produced by action of H<sub>2</sub>SO<sub>4</sub> on stibnite, in a stibnite vein in silicified limestone (Pereta mine, Italy).

**Association:** Klebelsbergite, peretaite, valentinite, sénarmontite, stibiconite, stibnite, sulfur, gypsum, quartz.

**Distribution:** From the Cetine mine, 20 km southwest of Siena, and the Pereta mine, Scansano, Tuscany, Italy. In the Lucky Knock mine, Tonasket, Okanogan Co., Washington, USA.

**Name:** For Henri-Jean-Baptiste Coquand (1813–1881), Professor of Geology and Mineralogy, University of Marseilles, Marseilles, France, for his early work on the antimony deposits of Tuscany, Italy.

**Type Material:** University of Florence, Florence, 1761/RI; University of Pisa, Pisa, Italy, 8800; National Museum of Natural History, Washington, D.C., USA.

**References:** (1) Sabelli, C., P. Orlandi, and G. Vezzalini (1992) Coquandite, Sb<sub>6</sub>O<sub>8</sub>(SO<sub>4</sub>)•H<sub>2</sub>O, a new mineral from Pereta, Tuscany, Italy, and two other localities. *Mineral. Mag.*, 56, 599–603. (2) (1993) *Amer. Mineral.*, 78, 845 (abs. ref. 1).