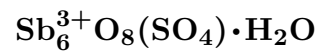


Coquandite



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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. *Twinning:* 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 \parallel [001]; parallel extinction \parallel {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)

Chemistry:	(1)	(2)	(3)	(4)
Sb ₂ O ₃	88.25	88.53	89.96	88.91
CaO	0.04	0.04	0.04	0.04
Na ₂ O	0.02	0.02	0.05	0.03
H ₂ O			1.43	1.43
SO ₃	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, H₂O by elemental analyzer, confirmed by IR. (4) Average of (1–3); corresponding to Sb_{5.98}Ca_{0.01}Na_{0.01}O_{7.96}(SO₄)_{1.02}•0.78H₂O.

Occurrence: Probably produced by action of H₂SO₄ 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, Sb₆O₈(SO₄)•H₂O, 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).