

Peretaite**CaSb₄³⁺O₄(SO₄)₂(OH)₂•2H₂O**

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Crystal Data: Monoclinic. *Point Group:* 2/m. Crystals are flattened on {100}, may be elongated along [001], bounded by {100}, {310}, {110}, {122}, {001}, {010}, {210}, {201}, {302}, {601}, to 5 mm; as divergent sprays of laths, botryoidal, massive. *Twinning:* On {100}, very common.

Physical Properties: *Cleavage:* On {100}, perfect. VHN = 170–190, 180 average (15 g load). Hardness = n.d. D(meas.) = > 3.8 D(calc.) = 4.06

Optical Properties: Transparent. *Color:* Colorless, pink to red from incrustations of valentinite. *Luster:* Vitreous.

Optical Class: Biaxial (+). *Orientation:* Z = c; X ∧ b = ~28°. α = 1.841(1) β = n.d. γ = 1.935(1) 2V(meas.) = Very large.

Cell Data: *Space Group:* C2/c. a = 24.665(4) b = 5.6006(9) c = 10.185(1) β = 95.98(1)° Z = 4

X-ray Powder Pattern: Pereta mine, Italy; shows some preferred orientation due to {100} cleavage.

12.19 (100), 3.06 (67), 2.451 (31), 3.10 (24), 6.12 (21), 2.532 (20), 2.068 (17)

Chemistry:

	(1)	(2)
SO ₃	17.62	18.77
Sb ₂ O ₃	69.09	68.33
CaO	6.44	6.57
H ₂ O	6.0	6.33
Total	99.15	100.00

(1) Pereta mine, Italy; CaO by AA, H₂O by TGA; corresponds to Ca_{1.01}Sb_{4.17}O₄(SO₄)_{1.94}(OH)_{2.65}•2H₂O. (2) CaSb₄O₄(SO₄)₂(OH)₂•2H₂O.

Occurrence: Of rare occurrence, formed by the action of H₂SO₄ solutions on stibnite in the oxidized zone of a limestone-hosted hydrothermal antimony-bearing deposit.

Association: Stibnite, pyrite, kermesite, sulfur, valentinite, onoratoite, klebelsbergite, gypsum, calcite, quartz.

Distribution: In Italy, from the Pereta and Cetine mines, and at Micciano, near Larderello, Val di Cecina, Tuscany.

Name: For its occurrence at the Pereta mine, Italy.

Type Material: University of Florence, Florence, 164/I; Pisa University, Pisa, Italy; National Museum of Natural History, Washington, D.C., USA, 148481, 148482.

References: (1) Cipriani, N., S. Menchetti, P. Orlandi, and C. Sabelli (1980) Peretaite, CaSb₄O₄(OH)₂(SO₄)₂•2H₂O, a new mineral from Pereta, Tuscany, Italy. *Amer. Mineral.*, 65, 936–939. (2) Menchetti, S. and C. Sabelli (1980) Peretaite, CaSb₄O₄(OH)₂(SO₄)₂•2H₂O: its atomic arrangement and twinning. *Amer. Mineral.*, 65, 940–946.