

Weinebeneite

CaBe₃(PO₄)₂(OH)₂•4H₂O

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Crystal Data: Monoclinic. *Point Group:* *m*. Platy crystals, flattened on {001}, elongated parallel [100], showing {001}, {00 $\bar{1}$ }, {110}, { $\bar{1}$ 10}, {010}, half-a-dozen others, to 0.5 mm, typically in rosettes.

Physical Properties: *Fracture:* Irregular to splintery. *Tenacity:* Brittle. Hardness = 3–4
D(meas.) = 2.15(4) D(calc.) = 2.17

Optical Properties: Transparent to translucent. *Color:* Colorless. *Streak:* White.
Luster: Vitreous.

Optical Class: Biaxial (+). *Orientation:* $Z \wedge c = 42^\circ$. $\alpha = 1.520(1)$ $\beta = 1.520(1)$
 $\gamma = 1.530(1)$ $2V(\text{meas.}) = < 10^\circ$

Cell Data: *Space Group:* *Cc*. $a = 11.897(2)$ $b = 9.707(1)$ $c = 9.633(1)$ $\beta = 95.76(1)^\circ$
 $Z = 4$

X-ray Powder Pattern: Weinebene Pass, Austria.

2.513 (100), 3.421 (70), 5.92 (60), 2.959 (60), 4.33 (49), 2.945 (45), 4.85 (44)

Chemistry:

	(1)	(2)
P ₂ O ₅	39.2	39.09
BeO	21.1	20.66
CaO	15.5	15.44
H ₂ O	25.5	24.81
Total	101.3	100.00

(1) Weinebene Pass, Austria; by electron microprobe, Be by AA, H₂O by LOI; corresponds to Ca_{0.99}Be_{3.02}(PO₄)_{1.97}(OH)_{2.11}•4H₂O. (2) CaBe₃(PO₄)₂(OH)₂•4H₂O.

Mineral Group: Zeolite group.

Occurrence: In fractures in a spodumene-rich pegmatite in high-grade metamorphic rocks.

Association: Roscherite, fairfieldite, uralolite.

Distribution: From the Weinebene Pass, Carinthia, Austria.

Name: For its occurrence in the Weinebene Pass, Austria.

Type Material: Landesmuseum Joanneum, Graz; Kärntner Landesmuseum, Klagenfurt; Natural History Museum, Vienna, Austria.

References: (1) Walter, F. (1992) Weinebeneite, CaBe₃(PO₄)₂(OH)₂•4H₂O, a new mineral species: mineral data and crystal structure. *Eur. J. Mineral.*, 4, 1275–1283. (2) (1993) *Amer. Mineral.*, 78, 847–848 (abs. ref. 1).