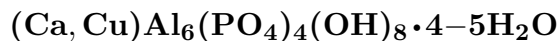


Coeruleolactite



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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Microcrystalline to cryptocrystalline, in fibrous veinlets, botryoidal aggregates, and crusts.

Physical Properties: *Fracture:* Uneven to conchoidal. Hardness = 5 D(meas.) = 2.55–2.70 D(calc.) = n.d.

Optical Properties: Semitransparent. *Color:* Milk-white to pale blue. *Streak:* White. *Optical Class:* Uniaxial (+), or nearly so. *Orientation:* Elongation positive. $\omega = 1.580(5)$ $\epsilon = 1.588(5)$

Cell Data: *Space Group:* $P\bar{1}$. $a = 7.529(9)$ $b = 9.951(10)$ $c = 7.782(10)$ $\alpha = 112.51^\circ$ $\beta = 116.54^\circ$ $\gamma = 68.57^\circ$ $Z = 1$

X-ray Powder Pattern: Rindsberg mine, Germany.
2.96 (10), 3.70 (9), 3.48 (5), 3.34 (5), 6.11 (4d), 1.907 (4), 4.77 (3)

Chemistry:

	(1)	(2)	(3)
P ₂ O ₅	36.33	30.1	36.31
SiO ₂	1.82		
Al ₂ O ₃	35.11	40.3	38.27
Fe ₂ O ₃	0.93		
CuO	1.40	0.24	4.25
ZnO	trace		
MgO	0.20	0.40	
CaO	2.41	5.09	
F	trace		
H ₂ O	21.23	23.4	21.70
insol.			0.54
Total	99.43	99.5	101.07

(1) Rindsberg mine, Germany; CuO, CaO, MgO, SiO₂ considered to be impurities. (2) Do.

(3) General Trimble's mine, Pennsylvania, USA.

Mineral Group: Turquoise group.

Occurrence: In brown iron ore (Rindsberg mine, Germany).

Association: Wavellite, variscite, matulaite, gibbsite, cacoenite, goethite, "limonite" (General Trimble's mine, Pennsylvania, USA); bermanite, purpurite (Kobokobo pegmatite, Congo).

Distribution: May occur at the following localities: the Rindsberg mine, near Katzenelnbogen, Rhineland-Palatinate, Germany. From the Phoenix United mines, Linkinhorne, Cornwall, England. In General Trimble's mine, East Whiteland, Chester Co., Pennsylvania, USA. At the Cruziero mine, Paoiá district, Minas Gerais, Brazil. From the Kobokobo pegmatite, Lusungu River district, Kivu Province, Congo (Zaire).

Name: From the Greek for *blue* and *milk*, for its typical color.

Type Material: Type material cannot be located. All specimens thought to be this species examined by (2) Foord and Taggart proved to be cuprian planerite.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 961. (2) Foord, E.E. and J.E. Taggart, Jr. (1998) A reexamination of the turquoise group: the mineral aheylite, planerite (redefined), turquoise and coeruleolactite. Mineral. Mag., 62, 93–111. (3) Hintze, C. (1933) Handbuch der Mineralogie. Gruyter & Co., Berlin, 1(4.2), 927 (in German).

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