

Crystal Data: Tetragonal. *Point Group:* 4/*m*. Isolated crystals are short prisms, showing {100}, {001}, {111}, to 1 mm.

Physical Properties: *Cleavage:* On {100} and {110}, perfect. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 1.5 D(meas.) = n.d. D(calc.) = 1.472 Soluble in H₂O.

Optical Properties: Translucent. *Color:* Dark sky-blue. *Streak:* Pale blue. *Luster:* Vitreous.

Optical Class: Uniaxial (+) (synthetic). *Pleochroism:* *O* = pale blue with a greenish tint; *E* = pale blue with a grayish tint. *Absorption:* *O* ≥ *E*. $\omega = 1.439(2)$ $\epsilon = 1.482(3)$

Cell Data: *Space Group:* I4/*m*. *a* = 11.155(4) *c* = 16.236(17) *Z* = 4

X-ray Powder Pattern: Potosi pit, Australia.

7.896 (100), 3.530 (20), 5.586 (15), 8.132 (8), 9.297 (6), 2.497 (4), 3.042 (3)

Chemistry:

	(1)	(2)
Cu	14.1	14.19
Ca	9.0	8.95
C	21.25	21.45
H	5.3	5.40
O	[50.35]	50.01
Total	[100.00]	100.00

(1) Potosi pit, Australia; by AA, C and H by CHN analyzer, average of two analyses, O by difference; corresponds to Ca_{1.02}Cu_{1.00}C_{8.00}H_{23.77}O_{14.23}. (2) CaCu(C₂H₃O₂)₄•6H₂O.

Occurrence: Formed in ferruginous gossan by reaction of oxidized zone metallic minerals with decaying vegetable matter provided by leaf litter and possibly mine timbers.

Association: Hoganite, linarite, malachite, azurite, cuprian smithsonite, cerussite, goethite, hematite, quartz.

Distribution: From the Potosi Ag–Pb–Zn mine, two km northeast of Broken Hill, New South Wales, Australia.

Name: To honor Frank L. Pace (1948–), Broken Hill, miner and collector of Broken Hill minerals, who first noted the mineral.

Type Material: Broken Hill Geocentre, Broken Hill; Australian Museum, Sydney; Museum of Victoria, Melbourne, Australia, M47465.

References: (1) Hibbs, D.E., U. Kolitsch, P. Leverett, J.L. Sharpe, and P.A. Williams (2002) Hoganite and paceite, two new acetate minerals from the Potosi mine, Broken Hill, Australia. *Mineral. Mag.*, 66, 459–464. (2) Klop, E.A., A.J.M. Duisenberg, and A.L. Spek (1983) Reinvestigation of the structure of calcium copper acetate hexahydrate, CaCu(C₂H₃O₂)₄•6H₂O. *Acta Cryst.*, C39, 1342–1344.