

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As crystals, elongated along [100] with {001} dominant, to 3 mm; also as powdery masses.

Physical Properties: *Cleavage:* Perfect on {001}, good on {110}. *Fracture:* n.d. *Tenacity:* Weak. Hardness = ~ 1 D(meas.) = n.d. D(calc.) = 2.31 Unstable in water.

Optical Properties: Transparent to translucent. *Color:* Deep to sky-blue. *Streak:* Light blue. *Luster:* Vitreous.

Optical Class: Biaxial (+). $\alpha = 1.676(2)$ $\beta = 1.715(2)$ $\gamma = 1.785(2)$ $2V(\text{calc.}) = 76^\circ$

Pleochroism: Y = Z = dark blue, X = light blue. *Orientation:* X = c, Y = b, Z = a.

Cell Data: *Space Group:* Cmc₂m. $a = 7.688(1)$ $b = 10.645(2)$ $c = 5.736(1)$ Z = 4

X-ray Powder Pattern: Calleta Pabellon de Pica, Tarapaca region, Chile.

2.920 (100), 2.660 (90), 6.285 (69), 3.898 (56), 4.278 (55), 2.763 (36), 2.356 (35)

Chemistry:	(1)	(2)
Cu	37.60	37.71
Cl	41.67	42.08
N	16.54	16.62
H	3.32	3.59
Total	99.13	100.00

(1) Calleta Pabellon de Pica, Tarapaca region, Chile; average of 3 electron microprobe analyses, supplemented by FTIR spectroscopy; corresponds to Cu_{1.00}Cl_{1.99}N_{1.99}H_{5.57}. (2) CuCl₂(NH₃)₂.

Occurrence: Likely the product of the interaction between NH₃ from guano and Cu from chalcopyrite in underlying igneous rocks.

Association: Halite, atacamite, salammoniac, darapskite.

Distribution: At Calleta Pabellon de Pica, Tarapaca region, Chile.

Name: Recognizes the first mineral described with ammine complex in its crystal structure.

Type Material: Mineralogical collection, Universalmuseum Joanneum, Graz, Austria (84.935).

References: (1) Bojar, H-P., F. Walter, J. Baumgartner, and G. Färber (2010) Ammineite, CuCl₂(NH₃)₂, a new species containing an ammine complex: mineral data and crystal structure. Can. Mineral., 48, 1359-1371. (2) (2012) Amer. Mineral., 97, 2064-2065 (abs. ref. 1).