

Crystal Data: Monoclinic. *Point Group:* $2/m$. Equant crystals, to 3 mm, slightly flattened on {001} with faces in the [010] zone well developed and striated. Also as sheets and rings of microcrystalline radiating aggregates enclosed in quartz crystals; in massive veneers.

Physical Properties: *Cleavage:* Distinct on {100}, noted in thin section. Hardness = 5–5.5
D(meas.) = 3.25 D(calc.) = 3.25

Optical Properties: Translucent to transparent. *Color:* Cerulean blue. *Luster:* Vitreous. *Optical Class:* Biaxial (-). *Pleochroism:* X = colorless to very pale greenish blue; Y = blue; Z = deep greenish blue. *Orientation:* Z = b; X \wedge c = 44°. *Dispersion:* r > v, very faint. *Absorption:* Z > Y > X. $\alpha = 1.607(1)$ $\beta = 1.641$ $\gamma = 1.672$ 2V(meas.) = 78(1)°

Cell Data: *Space Group:* $C2/m$. a = 12.926(3) b = 11.496(3) c = 4.696(1)
 $\beta = 100.81(2)^\circ$ Z = 4

X-ray Powder Pattern: Ajo, Arizona, USA.
2.874 (100), 4.29 (90), 2.204 (90), 3.44 (80), 2.795 (80), 6.33 (70), 4.61 (70)

Chemistry:	(1)
SiO ₂	33.60
TiO ₂	0.26
Al ₂ O ₃	15.78
FeO	0.27
MnO	0.10
CuO	23.53
MgO	0.09
CaO	17.02
H ₂ O ⁺	9.01
H ₂ O ⁻	0.04
Total	99.70

(1) Ajo, Arizona, USA; corresponds to Ca_{1.02}Cu_{0.99}Mg_{0.01}Fe_{0.01}²⁺Ti_{0.01}Al_{0.98}Si_{1.87}O₆(OH)_{3.04}.

Occurrence: In narrow veinlets in altered granodiorite porphyry (Ajo, Arizona, USA); included in quartz crystals (Messina, South Africa).

Association: Aurichalcite, shattuckite, ajoite, barite (Ajo, Arizona, USA); quartz, ajoite (Messina, South Africa).

Distribution: In the New Cornelia mine, Ajo, Pima Co., Arizona, USA. In South Africa, from Messina, Transvaal. At the Sinclair mine, near Lüderitz, Namibia.

Name: For the Tohono O'odam (formerly Papago) Indians who inhabit the region around Ajo, Arizona, USA.

Type Material: n.d.

References: (1) Hutton, C.O. and A.C. Vlisidis (1960) Papagoite, a new copper-bearing mineral from Ajo, Arizona. *Amer. Mineral.*, 45, 599–611. (2) Groat, L.A. and F.C. Hawthorne (1987) Refinement of the crystal structure of papagoite, CaCuAlSi₂O₆(OH)₃. *Mineral. Petrol.*, 37, 89–96.