

Aubertite**CuAl(SO₄)₂Cl•14H₂O**

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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As crusts of corroded grains.**Physical Properties:** *Cleavage:* {010}, perfect. Hardness = n.d. D(meas.) = 1.815
D(calc.) = 1.85 Soluble in H₂O.**Optical Properties:** Translucent. *Color:* Azure-blue.*Optical Class:* Biaxial (-). *Orientation:* Optic axis nearly $\perp$ {010}. *Dispersion:* $r > v$, moderate. $\alpha = 1.462$ $\beta = 1.482$ $\gamma = 1.495$ 2V(meas.) = 71°**Cell Data:** *Space Group:* $P\bar{1}$. $a = 6.282(3)$ $b = 13.192(5)$ $c = 6.260(3)$ $\alpha = 91.85(3)^\circ$
 $\beta = 94.70(3)^\circ$ $\gamma = 82.46(3)^\circ$ $Z = 1$ **X-ray Powder Pattern:** Quetena, Chile.

4.50 (100), 4.247 (69), 3.952 (58), 6.25 (45), 5.59 (44), 3.690 (42), 3.130 (42)

Chemistry:

	(1)	(2)
SO ₃	28.30	28.07
Al ₂ O ₃	9.16	8.94
CuO	11.80	13.95
CaO	0.18	
Na ₂ O	0.13	
K ₂ O	0.05	
Cl	6.70	6.22
H ₂ O	45.40	44.22
-O = Cl ₂	1.51	1.40
Total	100.21	100.00

(1) Quetena, Chile; by spectrophotometric methods, H₂O by the Penfield method; corresponds to Cu_{0.82}Al_{1.00}(SO₄)_{1.97}Cl_{1.05}•14.04H₂O. (2) CuAl(SO₄)₂Cl•14H₂O.**Occurrence:** In the oxidized zone of a copper deposit.**Association:** Copiapite, botryogen, amarantite, parabutlerite, metahohmannite.**Distribution:** From Quetena, west of Calama, Antofagasta, Chile.**Name:** Honors J. Aubert (1929–), French geophysicist who collected the first specimens.**Type Material:** University of Pierre and Marie Curie, Paris; National School of Mines, Paris, France.**References:** (1) Cesbron, F., D. Ginderow, M.-C. Sichére, and H. Vachey (1979) L'aubertite, un nouveau chloro-sulfate hydraté de cuivre et d'aluminium. Bull. Minéral., 102, 348–350 (in French with English abs.). (2) (1980) Amer. Mineral., 65, 205–206 (abs. ref. 1). (3) Ginderow, D. and F. Cesbron (1979) Structure cristalline de l'aubertite, AlCuCl(SO₄)₂•14H₂O. Acta Cryst., 35, 2499–2502 (in French with English abs.).