

Crystal Data: Monoclinic, probable. *Point Group:* n.d. As spherules of radial fibers, to 0.3 mm.

Physical Properties: *Tenacity:* Waxy or gummy. *Hardness* = 2 *D*(meas.) = 2.72(5)
D(calc.) = [2.54]

Optical Properties: Transparent or translucent. *Color:* Chrysocolla-green, inclining to pale blue-green. *Luster:* Nonmetallic.

Optical Class: Biaxial (-). *Pleochroism:* Weak in drab grayish green. *Orientation:* Blades extinguish up to 8° from *Z* || length. *Absorption:* *Z* > *X* = *Y*. $\alpha = 1.560$ $\beta = 1.635$
 $\gamma = 1.635$ *2V*(meas.) = Very small.

Cell Data: *Space Group:* n.d. *a* = 13.38 *b* = 19.16 *c* = 9.026 $\beta = \sim 90^\circ$ *Z* = [4]

X-ray Powder Pattern: Christmas, Arizona, USA.

13.4 (100), 7.786 (50), 4.790 (40), 3.897 (40), 10.97 (30), 6.684 (30), 3.315 (30)

Chemistry:

	(1)	(2)
SiO ₂	41.5	40.77
MnO	0.5	
CuO	36.2	44.97
MgO	2.3	
CaO	3.8	
H ₂ O	14.6	14.26
Total	98.9	100.00

(1) Christmas, Arizona, USA; average of two closely agreeing analyses. (2) Cu₅Si₆O₁₇·7H₂O.

Occurrence: A retrograde metamorphic or mesogene mineral formed at the expense of a prograde calc-silicate and sulfide assemblage; in tactites, commonly incrusting fractures; also filling cracks or interstices in diopside grains (Christmas, Arizona, USA).

Association: Kinoite, apachite, stringhamite, junitoite, clinohedrite, xonotlite, diopside, apophyllite, calcite, tobermorite (Christmas, Arizona, USA).

Distribution: From the Christmas copper mine, Gila Co., and the Lonestar [ckname??] deposit, near Safford, Graham Co., Arizona, USA.

Name: For Gila Co., Arizona, USA, where it was found.

Type Material: The Natural History Museum, London, England, 1980,533; University of Arizona, Tucson, Arizona; National Museum of Natural History, Washington, D.C., USA, 150201.

References: (1) Cesbron, F.P. and S.A. Williams (1980) Apachite and gilalite, two new copper silicates from Christmas, Arizona. *Mineral. Mag.*, 43, 639–641. (2) (1980) *Amer. Mineral.*, 65, 1065 (abs. ref. 1).