

*American Mineralogist, Volume 82, pages 931–935, 1997*

## **Crystal structure refinement of aluminian lizardite- $2H_2$**

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### **ABSTRACT**

Well-crystallized euhedral crystals of aluminian lizardite- $2H_2$  ( $\text{Mg}_{2.35}\text{Fe}_{0.06}^{2+}\text{Fe}_{0.07}^{3+}\text{Al}_{0.52}$ ) ( $\text{Si}_{1.41}\text{Al}_{0.59}\text{O}_{5.00}(\text{OH})_{4.00}$ ) were found near Schio (Vicenza, Italy). To gain insight into the role of a high Al content lizardite, chemical analyses and single-crystal X-ray data collection were conducted. Structure refinement, completed in space group  $P6_3$  (agreement factor  $R = 0.034$ ), gives mean T-O values of 1.654 Å and 1.664 Å for T1 and T2 sites, respectively. The ditrigonal distortion of the six-membered tetrahedral ring is positive ( $\alpha = +9.7^\circ$ ), as expected for the  $2H_2$  polytype. The octahedral site has a mean bond length similar to that of the Mg-rich octahedra of amesite and distortion parameters similar to those of Al-rich octahedra.