Orthochrysotile

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Crystal Data: Orthorhombic, pseudohexagonal. *Point Group:* n.d. Fibrous along [100]; asbestiform.

Physical Properties: Tenacity: Brittle, in part. Hardness = 2.5 D(meas.) = n.d. D(calc.) = [2.58]

Optical Properties: Translucent. *Color:* Yellow, white, gray, green. *Luster:* Greasy, silky in aggregates.

 $\label{eq:optical Class: Biaxial (-). } \alpha = 1.532 - 1.549 \quad \beta = \mathrm{n.d.} \quad \gamma = 1.545 - 1.556 \quad \mathrm{2V(meas.)} = \mathrm{n.d.}$

Cell Data: Space Group: C [sic]. a = 5.32 b = 9.17 c = 14.64 Z = 4

X-ray Powder Pattern: Transvaal, South Africa. (ICDD 25-645). 7.36 (100), 3.66 (80), 1.531 (65), 4.56 (50), 2.50 (50), 2.604 (40), 1.310 (40)

Chemistry: Material positively known to be this species apparently has not been analyzed.

Polymorphism & Series: Polymorphous with antigorite, clinochrysotile, lizardite, and parachrysotile; also denoted as chrysotile- $2Or_{c1}$.

Mineral Group: Kaolinite-serpentine group.

Occurrence: Commonly intermixed with clinochrysotile in veinlets cutting serpentinite.

Association: Clinochrysotile.

Distribution: Probably not uncommon, but difficult to characterize as intermixed with the more common clinochrysotile. The structure was determined on material from Cuddapah, Andhra Pradesh, India.

Name: Refers to the mineral's ORTHOrhombic structure, with *chrysotile* from the Greek for *golden* and *fiber*.

Type Material: n.d.

References: (1) Deer, W.A., R.A. Howie, and J. Zussman (1963) Rock-forming minerals, v. 3, sheet silicates, 170–190. (2) Whittaker, E.J.W. (1956) The structure of chrysotile. III. Ortho-chrysotile. Acta Cryst., 9, 862–864. (3) Wicks, F.J. and E.J.W. Whittaker (1975) A reappraisal of the structure of the serpentine minerals. Can. Mineral., 13, 227–243. (4) Yada, K. (1979) Microstructures of chrysotile and antigorite by high-resolution electron microscopy. Can. Mineral., 17, 679–691. (5) Bayliss, P. (1981) Unit cell data of serpentine group minerals. Mineral. Mag., 44, 153–156. (6) Wicks, F.J. and D.S. O'Hanley (1988) Serpentine minerals: structures and petrology. In: S.W. Bailey, Ed., Hydrous phyllosilicates. Rev. Mineral. 19, MSA, 91–167.