

**Crystal Data:** Orthorhombic. *Point Group:* [2/m 2/m 2/m or mm2] (by analogy to vandendriesscheite). A very fine-grained alteration product, intergrown in parallel and threaded with minute tubes, within vandendriesscheite crystals.

**Physical Properties:** Hardness = n.d. D(meas.) = 5.45 D(calc.) = [5.71–5.79] Alters from vandendriesscheite by dehydration.

**Optical Properties:** Transparent. *Color:* [Amber-yellow, yellowish orange to orange] (by analogy to vandendriesscheite).

*Optical Class:* Biaxial (-) (optics given here are for vandendriesscheite). *Pleochroism:* X = nearly colorless; Y = Z = yellow-orange to golden yellow. *Orientation:* X = c; Y = b; Z = a. *Dispersion:* r > v, strong.  $\alpha = 1.780(5)$   $\beta = 1.850(10)$   $\gamma = 1.860(10)$  2V(meas.) = 60(2)°

**Cell Data:** *Space Group:* [Pmma, P2<sub>1</sub>ma, or Pm2a] (by analogy to vandendriesscheite). a = 14.07(30) b = 41.31(30) c = 43.33(30) Z = [35]

**X-ray Powder Pattern:** Shinkolobwe, Congo; pattern here identical to vandendriesscheite with which it is inextricably intergrown.

7.24 (100), 3.61 (100), 3.17 (75), 1.985 (40), 3.53 (25b), 2.522 (25), 2.034 (15)

**Chemistry:** An analysis of pure metavandendriesscheite has not been made; its hydration is variable, less than vandendriesscheite, from which it alters by dehydration.

**Occurrence:** In the oxidized zone of a uranium-bearing mineral deposit.

**Association:** Vandendriesscheite, fourmarierite, becquerelite, metatorbernite, rutherfordine, uraninite.

**Distribution:** From Shinkolobwe, Katanga Province, Congo (Shaba Province, Zaire). Presumably other vandendriesscheite localities are likewise localities for metavandendriesscheite.

**Name:** As a dehydration product of *vandendriesscheite*.

**Type Material:** Harvard University, Cambridge, Massachusetts, USA, 106523.

**References:** (1) Christ, C.L. and J.R. Clark (1960) Crystal chemical studies of some uranyl oxide hydrates [vandendriesscheite-II]. Amer. Mineral., 45, 1026–1061.