## Cuzticite $Fe_2^{3+}Te^{6+}O_6 \cdot 3H_2O$



**Crystal Data:** Hexagonal. *Point Group:* n.d. Minute scales, aggregated in warty to stalactitic crusts.

**Physical Properties:** Hardness = 3, on compact material. D(meas.) = 3.9 D(calc.) = 4.01

**Optical Properties:** Semitransparent. *Color:* Yellow to brown; dark yellow in thin section. *Optical Class:* Uniaxial (–). $\omega = 2.06$ $\epsilon = 2.05$

**Cell Data:** *Space Group:* n.d. $a = 5.045$ $c = 14.63$ Z = 2

**X-ray Powder Pattern:** Moctezuma mine, Mexico.
3.256 (10), 2.518 (7), 4.871 (4), 2.239 (3), 1.564 (3), 1.457 (3), 1.994 (2)

**Chemistry:**

| | (1) | (2) |
|---|---|---|
| $TeO_3$ | 45.1 | 45.10 |
| $TeO_2$ | trace | |
| $Fe_2O_3$ | 41.1 | 41.02 |
| $Mn_2O_3$ | ~0.4 | |
| PbO | 0.0 | |
| $H_2O$ | 13.6 | 13.88 |
| Total | 100.2 | 100.00 |

(1) Moctezuma mine, Mexico; average of three analyses, total Mn as $Mn^{3+}$, $H_2O$ by the Penfield method on a separate sample. (2) $Fe_2TeO_6 \cdot 3H_2O$.

**Occurrence:** Very rare in oxidized ore in a matrix of intensely silicified and brecciated rhyolite vitrophyre cemented by drusy quartz and carrying pyrite and tellurides.

**Association:** Eztlite, emmonsite, schmitterite, kuranakhite, pyrite.

**Distribution:** From the Moctezuma (Bambolla) mine, 12 km south of Moctezuma, Sonora, Mexico.

**Name:** From the Nahua language for *something yellow*, in allusion to the color.

**Type Material:** The Natural History Museum, London, England, 1984,467.

**References:** (1) Willams, S.A. (1982) Cuzticite and eztlite, two new tellurium minerals from Moctezuma, Mexico. Mineral. Mag., 46, 257–259. (2) (1983) Amer. Mineral., 68, 471 (abs. ref. 1).