Oursinite

\((\text{Co}, \text{Mg})(\text{UO}_2)_2\text{Si}_2\text{O}_7 \cdot 6\text{H}_2\text{O})\)

\(\odot2001\) Mineral Data Publishing, version 1.2

**Crystal Data:** Orthorhombic. \(\text{Point Group: } mnm\) or \(2/m\ 2/m\ 2/m\). In radiating aggregates of acicular crystals elongated || [001], to 1 mm.

**Physical Properties:** Cleavage: On \(\{hk0\}\). Hardness = n.d. \(D(\text{meas.}) = \text{n.d.}\) \(D(\text{calc.}) = 3.674\) Radioactive.

**Optical Properties:** Transparent. \(\text{Color: Pale yellow.}\) 
**Optical Class:** Biaxial (−). \(\text{Orientation: } Y = c\) \(\alpha = 1.624(2)\) \(\beta = 1.640(2)\) \(\gamma = 1.650(2)\) \(2V(\text{meas.}) = \text{n.d.}\) \(2V(\text{calc.}) = 76^\circ\)

**Cell Data:** \(\text{Space Group: } Aba2\) or \(Abam\). \(a = 12.74(1)\) \(b = 17.55(2)\) \(c = 7.050(6)\) \(Z = 4\)

**X-ray Powder Pattern:** Shinkolobwe, Congo. 
8.73 (100), 2.853 (90), 7.20 (70), 4.141 (70), 5.16 (50), 3.528 (40), 4.55 (35)

**Chemistry:**

\[
\begin{array}{c|c}
\text{SiO}_2 & 13.21 \\
\text{UO}_3 & 66.71 \\
\text{NiO} & 0.30 \\
\text{CoO} & 6.56 \\
\text{MgO} & 0.42 \\
\text{H}_2\text{O} & [12.80] \\
\hline
\text{Total} & [100.00]
\end{array}
\]

(1) Shinkolobwe, Congo; by electron microprobe, average of seven analyses, \(\text{H}_2\text{O}\) by difference; corresponds to \((\text{Co}_{0.78}\text{Mg}_{0.09}\text{Ni}_{0.04})\Sigma=0.91(\text{UO}_2)_{2.07}\text{Si}_{1.95}\text{O}_7 \cdot 6\text{H}_2\text{O}\).

**Occurrence:** A secondary mineral in brecciated dolostone containing uraninite.

**Association:** Soddyite, kasolite, schoepite, sklodowskite, torbernite, lepersonnite, bijvoetite, curite.

**Distribution:** From Shinkolobwe, Katanga Province, Congo (Shaba Province, Zaire).

**Name:** From the French oursin, meaning sea urchin, in allusion to the mineral’s appearance.

**Type Material:** Royal Museum of Central Africa, Tervuren, Belgium, RGM1321.

**References:** (1) Deliens, M. and P. Piret (1983) L’oursinite \((\text{Co}_{0.86}\text{Mg}_{0.10}\text{Ni}_{0.04})\text{O} \cdot 2\text{UO}_3 \cdot 2\text{SiO}_2 \cdot 6\text{H}_2\text{O}\), nouveau minéral de Shinkolobwe, Shaba, Zaire. Bull. Minéral., 106, 305–308 (in French with English abs.). (2) (1984) Amer. Mineral., 69, 567 (abs. ref. 1).