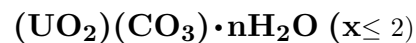


Joliotite

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Crystal Data: Orthorhombic. *Point Group:* $2/m \ 2/m \ 2/m$, 222, or $mm2$. As crystals, scaly and flattened on {100}, exhibiting {100}, {010}, and {011}; typically in radial spherulitic aggregates, to 0.1 mm.

Physical Properties: *Cleavage:* {100}, probable. Hardness = 1–2 $D(\text{meas.}) = 4.04$
 $D(\text{calc.}) = 4.55$ Radioactive; fluoresces pale green to pale yellow under SW and LW UV.

Optical Properties: Translucent. *Color:* Citron-yellow. *Streak:* Yellow. *Luster:* [Vitreous.]
Optical Class: Biaxial (-). *Pleochroism:* X = colorless; Z = yellow. *Orientation:* X = a; Y = b; Z = c. $\alpha = 1.596\text{--}1.604$ $\beta = 1.636$ $\gamma = 1.637\text{--}1.651$ $2V(\text{meas.}) = \text{Small}$.

Cell Data: *Space Group:* $Pmmm$, $P222$, or $Pmm2$. $a = 8.16$ $b = 10.35$ $c = 6.32$
 $Z = 4$

X-ray Powder Pattern: Menzenschwand, Germany.
 8.09 (10), 3.42 (9b), 3.18 (8b), 4.10 (5), 1.882 (4), 2.11 (3), 4.48 (2)

Chemistry:	(1)	(2)
CO ₂	12.5	12.02
UO ₃	73.7	78.14
(Pb + Ba)O	1.2	
H ₂ O		9.84
<u>Total</u>		<u>100.00</u>

(1) Menzenschwand, Germany; by electron microprobe, average of two partial analyses.

(2) $(\text{UO}_2)(\text{CO}_3) \cdot 2\text{H}_2\text{O}$.

Occurrence: A rare secondary mineral in the oxidized portions of a uranium deposit.

Association: Billietite, rutherfordine, studtite, barite, “limonite”.

Distribution: From Menzenschwand, Black Forest, Germany.

Name: Honors the French physicist Jean Frédéric Joliot (1900–1958), Institute du Radium, University of Paris, Paris, France, an early worker on radioactivity.

Type Material: n.d.

References: (1) Walenta, K. (1976) Widenmannit und Joliotit, zwei neue Uranylkarbonat-mineralien aus dem Schwarzwald. Schweiz. Mineral. Petrog. Mitt., 56, 167–185 (in German with English abs.). (2) (1977) Mineral. Abs., 28, 208 (abs. ref. 1).