

# Uranotungstite

# (Fe<sup>2+</sup>, Ba, Pb)(UO<sub>2</sub>)<sub>2</sub>(WO<sub>4</sub>)(OH)<sub>4</sub>·12H<sub>2</sub>O

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**Crystal Data:** Orthorhombic. *Point Group:* 2/m 2/m 2/m, mm2, or 222. Lathlike crystals, flattened on {010} in spherulitic aggregates, to 0.3 mm; as crusts.

**Physical Properties:** *Cleavage:* {010}, perfect. *Fracture:* Irregular. Hardness = ~2  
D(meas.) = > 4.03 D(calc.) = 4.27 Radioactive.

**Optical Properties:** Translucent. *Color:* Yellow, orange, pale brown. *Streak:* Yellow.  
*Luster:* Dull.

*Optical Class:* Biaxial (-). *Pleochroism:* X = nearly colorless, Y = Z = yellow. *Orientation:* X = b. *Dispersion:* r > v. α = 1.682(5) β = 1.845(5) γ = 1.855(5) 2V(meas.) = 42°

**Cell Data:** *Space Group:* Pmmm, Pmm2, or P222. a = 9.22 b = 13.81 c = 7.17  
Z = 2

**X-ray Powder Pattern:** Clara mine, Germany.  
6.96 (10), 3.21 (7), 4.60 (6), 3.46 (5), 2.77 (4), 1.970 (4), 3.01 (3)

<b>Chemistry:</b>	(1)
	UO <sub>3</sub> 45.1
	WO <sub>3</sub> 19.8
	FeO 2.3
	PbO 6.9
	BaO 4.9
	H <sub>2</sub> O 22.5
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	Total 101.5

(1) Menzenschwand, Germany; by electron microprobe and AA, average of two analyses, total Fe as FeO, H<sub>2</sub>O by loss on heating; corresponds to (Fe<sub>0.38</sub>Ba<sub>0.37</sub>Pb<sub>0.36</sub>)<sub>Σ=1.11</sub>(UO<sub>2</sub>)<sub>1.82</sub>(WO<sub>4</sub>)<sub>0.99</sub>(OH)<sub>3.88</sub>·12.52H<sub>2</sub>O.

**Occurrence:** A rare secondary mineral formed in polymetallic base metal deposits.

**Association:** Metauranocircite, metaheinrichite, bergenite, metatorbernite, metazeunerite, schoepite, quartz.

**Distribution:** From Menzenschwand and the Clara mine, near Oberwolfach, Black Forest, Germany.

**Name:** For its content of URANIum and TUNGsten.

**Type Material:** University of Stuttgart, Stuttgart, Germany.

**References:** (1) Walenta, K. (1985) Uranotungstit, ein neues sekundäres Uranmineral aus dem Schwarzwald. *Tschermaks Mineral. Petrog. Mitt.*, 34, 25-34 (in German with English abs.).

(2) (1986) *Amer. Mineral.*, 71, 1547 (abs. ref. 1).