

Uranotungstite

(Fe²⁺, Ba, Pb)(UO₂)₂(WO₄)(OH)₄·12H₂O

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Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m, *mm*2, 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)

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

(1) Menzenschwand, Germany; by electron microprobe and AA, average of two analyses, total Fe as FeO, H₂O by loss on heating; corresponds to (Fe_{0.38}Ba_{0.37}Pb_{0.36})_{Σ=1.11}(UO₂)_{1.82}(WO₄)_{0.99}(OH)_{3.88}·12.52H₂O.

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).