

Uranosilite



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Crystal Data: Orthorhombic. *Point Group:* 222 or $2/m\ 2/m\ 2/m$. Needlelike crystals are visible only under the scanning electron microscope at high magnification.

Physical Properties: Hardness = n.d. $D(\text{meas.}) = \text{n.d.}$ $D(\text{calc.}) = 3.25$ Radioactive.

Optical Properties: Semitransparent. *Color:* Pale yellow. *Luster:* Vitreous.
Optical Class: Biaxial (-) (probable). $\alpha = 1.570(2)$ $\beta = \text{n.d.}$ $\gamma = 1.584(2)$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* $P2_12_1$, $Pmmb$, or $Pmcb$. $a = 11.60$ $b = 14.68$ $c = 12.83$
 $Z = 6$

X-ray Powder Pattern: Menzenschwand, Germany.
7.30 (10), 11.58 (9), 6.19 (9), 3.50 (8), 2.77 (7), 3.42 (6), 3.20 (6)

Chemistry:	(1)	(2)
SiO ₂	60.2	59.52
UO ₃	36.8	40.48
PbO	1.6	
K ₂ O	1.4	
Total	[100.0]	100.00

(1) Menzenschwand, Germany; by electron microprobe, original analysis given as Si 28.5%, U 31.0%, Pb 1.5%, K 1.2%, O 38.0%, total 100.2%, here recalculated to oxides. (2) $\text{USi}_7\text{O}_{17}$.

Occurrence: In a uranium deposit.

Association: Studtite, uranophane, quartz, hematite.

Distribution: From Menzenschwand, Black Forest, Germany.

Name: For URANium and SILicon in the chemical composition.

Type Material: n.d.

References: (1) Walenta, K. (1983) Uranosilit, ein neues Mineral aus der Uranlagerstätte von Menzenschwand im südlichen Schwarzwald. *Neues Jahrb. Mineral., Monatsh.*, 259–269 (in German with English abs.). (2) (1984) *Amer. Mineral.*, 69, 408–409 (abs. ref. 1).