

Metanováčekite



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Crystal Data: Tetragonal. *Point Group:* $4/m$. As rims on other minerals, to 0.5 mm; typically pseudomorphous after nováčekite crystals.

Physical Properties: *Cleavage:* Perfect on {001}; good on {010}. Hardness = 2–2.5
D(meas.) = 3.51 D(calc.) = 3.72 Radioactive. Fluoresces yellow or yellow-green under UV.
Reversibly dehydrates from nováčekite under ambient conditions.

Optical Properties: Translucent. *Color:* Yellow.
Optical Class: Uniaxial (-). *Pleochroism:* O = pale yellow; E = colorless. *Absorption:* $E < O$.
 $\omega = 1.632-1.637$ $\epsilon = 1.595-1.620$

Cell Data: *Space Group:* $P4/n$. $a = 7.16$ $c = 8.58$ $Z = 1$

X-ray Powder Pattern: Anton mine, Germany.
8.52 (10), 3.57 (9), 2.14 (6), 4.29 (5), 1.791 (5), 5.05 (4b), 3.02 (4)

Chemistry: (1) Anton mine, Germany; no chemical analysis has been performed; identification is from correspondence of properties with synthetic $\text{Mg}(\text{UO}_2)_2(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$.

Mineral Group: Meta-autunite group.

Occurrence: Typically a dehydration product of nováčekite.

Association: Nováčekite (Germany, England); bassetite, saléeite (Sue mine, Arizona, USA).

Distribution: In Germany, in the Black Forest, from the Anton mine, Heubachtal, near Schiltach; at the Michael mine, Weiler, near Lahr; and the Clara mine, near Oberwolfach; in the Weisser Hirsch mine, Schneeberg, Saxony; from Ellweiler, Rhineland-Palatinate. In West Wheal Owles, St. Just, Cornwall, England. From the Sue mine, Cherry Creek area, Gila Co., Arizona, and on Twin Mountain, Comanche Co., Oklahoma, USA.

Name: The prefix *meta* indicates the dehydration product of *nováčekite*.

Type Material: n.d.

References: (1) Walenta, K. (1964) Beiträge zur Kenntnis seltener Arsenatminerale unter besonderer Berücksichtigung von Vorkommen des Schwarzwaldes. 1. Folge. Tschermarks Mineral. Petrog. Mitt., 9, 111–174, esp. 136–160 (in German). (2) de Abeledo, M.E.J., E.E. Galloni, and M.A.R. de Benyacar (1968) Electron diffraction data for some members of the metatorbernite group. Amer. Mineral., 53, 1028–1033.