Svornostite $K_2Mg[(UO_2)(SO_4)_2]_2{\cdot}8(H_2O)$

Crystal Data: Orthorhombic. *Point Group*: *mm*2. Crystals are prisms elongated on [001] and flattened on {100} and that exhibit {100}, {010} and {011}.

Physical Properties: *Cleavage*: Perfect on {010} and {010}. *Fracture*: Uneven. *Tenacity*: Brittle. Hardness = ~ 2 D(meas.) = n.d. D(calc.) = 3.268
Strong yellowish green fluorescence in SW and LW UV.

Optical Properties: Transparent to translucent. *Color*: Yellow. *Streak*: Very pale yellow. *Luster*: Vitreous.
Optical Class: Biaxial (+). α = 1.548(2) β = 1.556(3) γ = 1.585(2) 2V(meas.) = n.d. 2V(calc.) = 56° *Orientation*: $Z = c$.

Cell Data: *Space Group*: $Pnm2_1$. a = 12.7850(3) b = 8.2683(4) c = 11.2163(3) Z = 2

X-ray Powder Pattern: Geschieber vein, Jáchymov, Western Bohemia, Czech Republic.
6.398 (100), 5.060 (55), 8.279 (50), 3.318 (44), 3.009 (44), 4.645 (40), 4.610 (38)

Chemistry:	(1)	(2)
K_2O	7.93	8.05
MgO	3.11	3.43
CuO	0.79	
SO_3	28.13	27.32
UO_3	48.94	48.89
H_2O	[12.53]	12.31
Total	101.43	100.00

(1) Geschieber vein, Jáchymov, Western Bohemia, Czech Republic; average of 6 electron microprobe analyses supplemented by Raman spectroscopy, H_2O calculated; corresponding to $K_{1.94}(Mg_{0.89}Cu_{0.11})_{\Sigma=1.00}(U_{0.99}O_2)_2(S_{1.01}O_4)_4(H_2O)_8$. (2) $K_2Mg[(UO_2)(SO_4)_2]_2{\cdot}8H_2O$.

Occurrence: As weathering products from the post-mining alteration of uraninite and sulfides in a Ag-Bi-Co-Ni-U bearing hydrothermal vein deposit.

Association: Geschieberite, adolfpateraite, gypsum, mathesiusite.

Distribution: From the Geschieber vein, Svornost mine, Jáchymov (Joachimsthal), Western Bohemia, Czech Republic.

Name: For the Svornost mine, the locality that produced the first specimens.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4537/1).

References: (1) Plášil, J., J. Hloušek, A.V. Kasatkin, M. Novák, J. Čejka and L. Lapčák (2015) Svornostite, $K_2Mg[(UO_2)(SO_4)_2]_2{\cdot}8H_2O$, a new uranyl sulfate mineral from Jáchymov, Czech Republic. J. Geosciences, 60, 113-121. (2) (2016) Amer. Mineral., 101, 2570-2571 (abs. ref. 1).