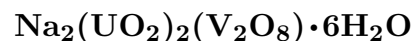


Strelkinite



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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$ or $mm2$. Rare in platy to equant crystals, to 1.5 mm, which may be in fanlike aggregates; usually in powdery crusts.

Physical Properties: *Cleavage:* One, $\perp \{001\}$, perfect. *Hardness* = 2–2.5 $D(\text{meas.}) = 4.0$ – 4.2 (corrected for impurities). $D(\text{calc.}) = 4.22$ *Radioactive;* fluoresces pale tobacco-green under UV.

Optical Properties: Semitransparent. *Color:* Gold-yellow to canary-yellow. *Luster:* Silky to pearly.

Optical Class: Biaxial (–). *Pleochroism:* Weak; $Y = \text{yellow}$; $Z = \text{pale yellow}$. *Orientation:* $X = c$; $Y = b$; $Z = a$. $\alpha = 1.674$ – 1.770 $\beta = 1.855$ – 1.907 $\gamma = 1.880$ – 1.915 $2V(\text{meas.}) = \text{Medium}$.

Cell Data: *Space Group:* $Pnmm$ or $Pnm2$. $a = 10.64(2)$ $b = 8.36(2)$ $c = 32.72(2)$
 $Z = 8$

X-ray Powder Pattern: n.d.

7.68 (10), 3.95 (8), 4.08 (6), 3.20 (5), 8.18 (4), 2.007 (4), 3.55 (3)

Chemistry:

	(1)	(2)	(3)
UO ₃	61.48	56.95	61.91
V ₂ O ₅	21.30	18.50	19.68
SiO ₂		4.40	
Al ₂ O ₃		0.22	
CaO	0.40	1.44	
Na ₂ O	8.35	6.20	6.71
K ₂ O	0.00	0.20	
H ₂ O ⁺	8.12	10.27	11.70
LOI		2.23	
Total	99.65	100.41	100.00

(1) Basaral, Kazakhstan; CaO due to calcite impurity; corresponds to $\text{Na}_{2.28}(\text{UO}_2)_{1.84}(\text{V}_2\text{O}_8) \cdot 3.85\text{H}_2\text{O}$. (2) Do.; original LOI given as 12.50%, partitioned as H₂O 10.27%, CO₂ 1.15%, reduction of U⁶⁺ and V⁵⁺ 1.08%, then deducting SiO₂, Al₂O₃, CaO, K₂O as due to calcite and clay impurities, corresponds to $\text{Na}_{2.00}(\text{UO}_2)_{2.00}(\text{V}_2\text{O}_8) \cdot 5.70\text{H}_2\text{O}$. (3) $\text{Na}_2(\text{UO}_2)_2(\text{V}_2\text{O}_8) \cdot 6\text{H}_2\text{O}$.

Occurrence: Along seams and fractures in carbonaceous-siliceous shales.

Association: Calcite, quartz, iron hydroxides, clay minerals.

Distribution: From Basaral, ten km north of the Bota-Burum uranium deposit, Chi-Ili Mountains, Kazakhstan. In the Kendyktas Mountains, Kyzylkum district, Uzbekistan.

Name: To honor Professor Mikhail Fedorovich Strelkin (1905–1965), Russian mineralogist, Institute of Geology of Ore Deposits, Petrology, Mineralogy, and Geochemistry, Moscow, Russia, who studied uranium ores.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 74783, 74784.

References: (1) Alekseeva, M.A., A.A. Chernikov, D.P. Shashkin, E.A. Kon'kova, and I.N. Gavrilova (1974) Strelkinite – a new uranyl vanadate. *Zap. Vses. Mineral. Obshch.*, 103, 576–580 (in Russian). (2) (1975) *Amer. Mineral.*, 60, 488–489 (abs. ref. 1). (3) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union, 195–196.