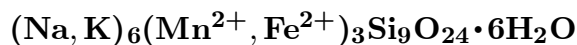


Shafranovskite



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Crystal Data: Hexagonal. *Point Group:* $3m$. As granular aggregates, to 5 mm.

Physical Properties: *Cleavage:* Well developed on {0001}. *Fracture:* Conchoidal. Hardness = 2–3 in aggregate. $D(\text{meas.}) = 2.76\text{--}2.78$ $D(\text{calc.}) = 2.78$ Strongly electromagnetic.

Optical Properties: Translucent. *Color:* Dark green to olive-green or yellow-green; pale yellow-green in thin section. *Luster:* Vitreous.

Optical Class: Uniaxial (-). $\omega = 1.587(2)$ $\epsilon = 1.570(2)$

Cell Data: *Space Group:* $P31m$ or $P3m1$. $a = 14.58$ $c = 21.01$ $Z = 6$

X-ray Powder Pattern: Kola Peninsula, Russia.

10.54 (100), 3.51 (70), 2.787 (60), 2.975 (50b), 3.60 (45b), 10.77 (35)

Chemistry:

	(1)
SiO ₂	47.52
TiO ₂	0.12
Al ₂ O ₃	0.39
Fe ₂ O ₃	1.85
FeO	6.10
MnO	14.50
MgO	0.34
CaO	0.61
Na ₂ O	10.24
K ₂ O	7.82
H ₂ O	9.78
Total	99.27

(1) Kola Peninsula, Russia; corresponds to $(\text{Na}_{3.63}\text{K}_{1.82}\text{Mn}_{0.29}\text{Ca}_{0.12})_{\Sigma=5.86}(\text{Mn}_{1.95}\text{Fe}_{0.93}^{2+}\text{Mg}_{0.09}\text{Ti}_{0.02}\text{Fe}_{0.01}^{3+})_{\Sigma=3.00}(\text{Si}_{8.68}\text{Fe}_{0.24}^{3+}\text{Al}_{0.01})_{\Sigma=8.93}\text{O}_{24} \cdot 5.96\text{H}_2\text{O}$.

Occurrence: Produced by late-stage crystallization of alkalic nepheline syenite magmas in pegmatites in differentiated alkalic massifs.

Association: Thermonatrite, natrophosphate, nacaphite, olympite, sidorenkite, aegirine, villiaumite, phosinaite, rasvumite.

Distribution: On Mts. Rasvumchorr, Niorkpakhk, Koashkar, and Koashva, Khibiny massif, and at the Jubilee pegmatite, Mt. Karnasurt, and several other localities in the Lovozero massif, Kola Peninsula, Russia.

Name: Honors Professor Ilarion Ilarionovich Shafranovskii (1907–1994), mineralogist and crystallographer at the Mining Institute, St. Petersburg, Russia.

Type Material: Geology Museum, Kola Branch, Academy of Sciences, Apatity, 5713/1; Mining Institute, St. Petersburg, 1202/1; Vernadsky Geological Institute, 57772; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 81593.

References: (1) Khomyakov, A.P., Z.V. Vrubelevskaya, B.B. Zvyagin, N.A. Mateeva, and G.O. Piloyan (1982) Shafranovskite $(\text{Na}, \text{K})_6(\text{Mn}, \text{Fe})_3\text{Si}_9\text{O}_{24} \cdot 6\text{H}_2\text{O}$, a new mineral. *Zap. Vses. Mineral. Obshch.*, 111, 475–480 (in Russian). (2) (1983) *Amer. Mineral.*, 68, 644 (abs. ref. 1). (3) (1983) *Chem. Abs.*, 98, 19574 (abs. ref. 1). (4) (1983) *Mineral. Abs.*, 34, 1961 (abs. ref. 1).