Zakharovite

\[ \text{Na}_4\text{Mn}^{2+}_5\text{Si}_{10}\text{O}_{24}(\text{OH})_6\cdot6\text{H}_2\text{O} \]

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Crystal Data: Hexagonal. Point Group: 3m. As platy aggregates in small nestlike deposits, to 1 cm.

Physical Properties: Cleavage: \(0001\), perfect. Fracture: Conchoidal. Hardness \(\approx\) 2
Density (meas.): 2.58–2.64 Density (calc.): \([2.67]\) Strongly electromagnetic.

Optical Class: Uniaxial (−). \(\omega = 1.565(2)\) \(\varepsilon = 1.535(2)\)

Cell Data: Space Group: \(P\overline{3}1m\) or \(P\overline{3}m1\). \(a = 14.58\) \(c = 37.71\) \(Z = 9\)

X-ray Powder Pattern: Kola Peninsula, Russia.

Chemistry:

\[
\begin{align*}
\text{SiO}_2 & : 48.74 \\
\text{Fe}_2\text{O}_3 & : 2.70 \\
\text{MnO} & : 25.63 \\
\text{MgO} & : 0.05 \\
\text{CaO} & : 2.11 \\
\text{SrO} & : 0.09 \\
\text{Na}_2\text{O} & : 7.95 \\
\text{K}_2\text{O} & : 0.41 \\
\text{H}_2\text{O} & : 12.25 \\
\text{Total} & : 99.93
\end{align*}
\]

(1) Kola Peninsula, Russia; corresponds to \((\text{Na}_{1.16}\text{Ca}_{0.46}\text{K}_{0.11}\text{Sr}_{0.01})\Sigma=3.74\)
\((\text{Mn}^{2+}_{4.45}\text{Fe}^{3+}_{0.42}\text{Mg}_{0.02})\Sigma=4.89\text{Si}_{10}\text{O}_{24}(\text{OH})_{5.66}\text{O}_{0.40}\Sigma=6.09\cdot5.59\text{H}_2\text{O}\).

Occurrence: In ussingite veinlets cutting foyaite in differentiated alkalic massifs (Kola Peninsula, Russia).

Association: Ussingite (Kola Peninsula, Russia); terskite, lovozerite, ussingite, natrolite, microcline, yofortierite, analcime, natrolite, polythionate (Mont Saint-Hilaire, Canada); eudialyte, varenoesite, cataplite, labuntsovite (Saint-Amable, Canada).

Distribution: At Mt. Karnasurt, Lovozero massif, and on Mts. Yukspor and Koashva, Khibiny massif, Kola Peninsula, Russia. From the Saint-Amable sill, near Varenes, and at Mont Saint-Hilaire, Quebec, Canada.

Name: For Professor Evgen'evich Zakharov (1902–1980), Director of the Moscow Geological Exploration Institute, Moscow, Russia.

Type Material: Geology Museum, Kola Branch, Academy of Sciences, Apatity, 5713/6; Mining Institute, St. Petersburg, 1199; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 81688; The Natural History Museum, London, England, 1994,38.

References:

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