

**Crystal Data:** Monoclinic, probable. *Point Group:* n.d. As irregular grains and in fine-grained aggregates.

**Physical Properties:** Hardness = 5.5–6 D(meas.) = 4.40 D(calc.) = n.d.

**Optical Properties:** Semitransparent. *Color:* Pale yellowish, pale brown, pale black. *Optical Class:* Biaxial (-). *Orientation:*  $X \wedge c' = 10^\circ\text{--}15^\circ$ . *Dispersion:*  $r < v$ , strong.  $\alpha = 2.10\text{--}2.13$   $\beta = 2.19\text{--}2.21$   $\gamma = 2.21\text{--}2.24$   $2V(\text{meas.}) = 10^\circ\text{--}30^\circ$

**Cell Data:** *Space Group:* n.d. Z = n.d.

**X-ray Powder Pattern:** Kola Peninsula, Russia.  
2.97 (10), 3.06 (9), 1.60 (8), 1.72 (6), 1.89 (5), 3.79 (4), 1.59 (4)

<b>Chemistry:</b>	(1)	(2)	(1)	(2)	
Nb <sub>2</sub> O <sub>5</sub>	74.06	81.09	Fe <sub>2</sub> O <sub>3</sub>	1.35	
Ta <sub>2</sub> O <sub>5</sub>	0.83		MnO	0.05	
SiO <sub>2</sub>	0.97		MgO	0.35	
TiO <sub>2</sub>	5.56		CaO	2.80	
ThO <sub>2</sub>	0.56		Na <sub>2</sub> O	9.08	18.91
Al <sub>2</sub> O <sub>3</sub>	0.20		F	0.00	
RE <sub>2</sub> O <sub>3</sub>	3.25		H <sub>2</sub> O	0.67	
			Total	99.73	100.00

(1) Kola Peninsula, Russia. (2) NaNbO<sub>3</sub>.

**Polymorphism & Series:** Dimorphous with isolueshite and lueshite.

**Occurrence:** Replacing perovskite and pyrochlore in dolomite carbonatites.

**Association:** Dolomite, apatite, phlogopite, perovskite, pyrochlore.

**Distribution:** From the Lesnaya Varaka massif, Kola Peninsula, Russia. In the Sallanlatvi massif, northern Karelia, Russia. At Gem Park, about six km east of Hillside, Fremont Co., Colorado, USA.

**Name:** For sodium, NATRium, and NIOBium in the composition.

**Type Material:** Mineralogical Museum, St. Petersburg University, St. Petersburg, Russia, 17401.

**References:** (1) Bulakh, A.G., A.A. Kukharenko, Y.N. Knipovich, V.V. Kondrat'eva, K.A. Baklanova, and E.N. Baranova (1960) Some new minerals in carbonatites of the Kola Peninsula. *Mat. Vses. Nauk Geol. Inst.* 1960, 114–116. (2) (1962) *Amer. Mineral.*, 47, 1483 (abs. ref. 1).