

**Crystal Data:** Monoclinic. *Point Group:* 2/m. As anhedral grains to 2 mm; in aggregates to 0.5 cm.

**Physical Properties:** *Cleavage:* n.d. *Tenacity:* n.d. *Fracture:* n.d. *Hardness* = 5  
D(meas.) = 2.94(2) D(calc.) = 2.93

**Optical Properties:** Translucent to transparent. *Color:* Orange. *Streak:* White. *Luster:* Vitreous.  
*Optical Class:* Biaxial (+).  $\alpha = 1.686(2)$   $\beta = 1.696(2)$   $\gamma = 1.835(3)$   $2V(\text{meas.}) = 32(1)^\circ$   
*Orientation:*  $a = Z$ ,  $b = Y$ ,  $c \wedge X = 27^\circ$  in obtuse  $\beta$ . *Pleochroism:*  $X = Z =$  pale yellow,  $Y =$  orange.

**Cell Data:** *Space Group:* C2/m.  $a = 14.249(6)$   $b = 13.791(6)$   $c = 7.777(2)$   $\beta = 116.82(3)^\circ$   $Z = 1$

**X-ray Powder Pattern:** Mount Kukisvumchorr, Khibiny alkaline massif, Kola Peninsula, Russia.  
3.169 (100), 3.100 (62), 2.585 (58), 6.95 (56), 3.032 (53), 6.34 (34), 2.478 (25)

Chemistry:	(1)		(1)
Na <sub>2</sub> O	5.45	Al <sub>2</sub> O <sub>3</sub>	0.04
K <sub>2</sub> O	8.54	SiO <sub>2</sub>	39.66
SrO	0.10	TiO <sub>2</sub>	25.61
BaO	8.02	ZrO <sub>2</sub>	0.05
FeO	2.41	Nb <sub>2</sub> O <sub>5</sub>	1.11
MgO	0.30	<u>H<sub>2</sub>O</u>	<u>8.20</u>
MnO	0.23	Total	99.72

(1) Mount Kukisvumchorr, Khibiny alkaline massif, Kola Peninsula, Russia; average electron microprobe analysis supplemented by IR spectroscopy, H<sub>2</sub>O by TGA; corresponding to  
Na<sub>4</sub>(K<sub>3.74</sub>Na<sub>0.26</sub>)<sub>Σ=4.00</sub>[(H<sub>2</sub>O)<sub>2.14</sub>Ba<sub>1.27</sub>K<sub>0.65</sub>Sr<sub>0.02</sub>](□<sub>0.93</sub>Fe<sub>0.81</sub>Mg<sub>0.18</sub>Mn<sub>0.08</sub>)<sub>Σ=2</sub>(Ti<sub>7.76</sub>Nb<sub>0.20</sub>Zr<sub>0.01</sub>)<sub>Σ=7.97</sub>  
(Si<sub>15.98</sub>Al<sub>0.02</sub>)<sub>Σ=16.00</sub>O<sub>48</sub>[O<sub>5.43</sub>(OH)<sub>2.57</sub>]<sub>Σ=8.00</sub>·7.66H<sub>2</sub>O.

**Mineral Group:** Labuntsovite subgroup of the labuntsovite group.

**Occurrence:** In K-feldspar-natrolite-calcite veinlets in hydrothermally altered urtite.

**Association:** Pectolite, fluorite, aegirine, neskevaaraite-Fe.

**Distribution:** From level +252 m, Kirovskii mine, Mount Kukisvumchorr, Khibiny alkaline massif, Kola Peninsula, Russia.

**Name:** Suffix, *Fe*, refers to the iron-dominance in the D site of a member of the *labuntsovite* subgroup.

**Type Material:** A.E. Fersman Mineralogical Museum, Moscow, Russia (91285).

**References:** (1) Khomyakov, A.P., G.N. Nechelyustov, G. Ferraris, A. Gula, and G. Ivaldi (2001) Labuntsovite-Fe and labuntsovite-Mg- two new minerals from the Khibina and Kovdor alkaline massifs, Kola Peninsula. *Zap. Ross. Mineral. Obshch.*, 130(4), 36-45. (2) (2002) *Amer. Mineral.*, 87, 1732-1733 (abs. ref. 1). (3) Chukanov, N.V., I.V. Pekov, and A.P. Khomyakov (2002) Recommended nomenclature for labuntsovite-group minerals. *Eur. J. Mineral.*, 14, 165-173. (4) Pekov, I.V. (2007) New minerals from former Soviet Union countries, 1998-2006. *Mineral. Almanac*, 11, 30-31.