

Labyrinthite**Crystal Data:** Hexagonal. *Point Group:* 3. As rounded grains, to 1.0 cm.**Physical Properties:** *Cleavage:* n.d. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 5-6
D(meas.) = 2.88(2) D(calc.) = 2.87**Optical Properties:** Transparent. *Color:* Vivid pink. *Streak:* White. *Luster:* Vitreous.
Optical Class: Uniaxial (+). $\omega = 1.597(1)$ $\epsilon = 1.601(1)$ **Cell Data:** *Space Group:* R3. $a = 14.239(1)$ $c = 60.733(7)$ $Z = 3$ **X-ray Powder Pattern:** Khibiny alkaline massif, Kola Peninsula, Russia.
2.977 (100), 2.853 (88), 4.324 (68), 3.230 (44), 3.550 (39), 2.685 (38), 3.049 (36)

Chemistry:	(1)
Na ₂ O	16.77
K ₂ O	1.11
CaO	10.73
SrO	1.24
FeO	2.56
MnO	1.00
Ce ₂ O ₃	0.27
SiO ₂	50.04
ZrO ₂	11.90
TiO ₂	0.67
Cl	1.70
F	0.11
H ₂ O	1.58
<u>-O = (Cl, F)</u>	<u>0.43</u>
Total	99.25

(1) Khibiny alkaline massif, Kola Peninsula, Russia; average of 8 EDS electron microprobe analyses, OH and H₂O confirmed by IR, H₂O by Penfield method, corresponding to (Na_{33.30}K_{1.45}Sr_{0.74}) $\Sigma=35.49$ (Ca_{11.77}Ce_{0.10}) $\Sigma=11.87$ (Fe_{2.19}Mn_{0.87}) $\Sigma=3.06$ Zr_{5.94}(Ti_{0.52}Si_{0.26}) $\Sigma=0.78$ Si₅₁O_{144.48}(OH)_{4.80}Cl_{2.95}F_{0.36}· 3H₂O.

Mineral Group: Eudialyte group.**Occurrence:** A late-stage pegmatitic mineral in an alkaline igneous complex.**Association:** K-feldspar, sodalite, alkali amphiboles, aegirine, pectolite, lamprophyllite, lomonosovite, villiaumite, lovozerite-group minerals.**Distribution:** Eveslogchorr Mountain, Khibiny alkaline massif, Kola Peninsula, Russia.**Name:** Alludes to its very complex (*labyrinthine*) crystal structure.**Type Material:** A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, 2624/2.

References: (1) Khomyakov, A.P., G.N. Nechelyustov, and R.K. Rastsvetaeva (2006) Labyrinthite (Na, K, Sr)₃₅Ca₁₂Fe₃Zr₆TiSi₅₁O₁₄₄(O, OH, H₂O)₉Cl₃, a new mineral with a modular eudialyte-like structure from Khibiny alkaline massif, Kola Peninsula, Russia. *Zap. Ross. Mineral. Obshch.*, 135(2), 38–49 (in Russian, English abstract). (2) (2009) *Amer. Mineral.*, 94, 400 (abs. ref. 1). (3) Rastsvetaeva, R.K., and A.P. Khomyakov (2001) Modular structure of a sodium-rich analogue of eudialyte with the doubled *c*-parameter and R3 symmetry. *Crystallogr. Reports*, 46, 752–757. (4) (2002) *Amer. Mineral.*, 87, 767 (abs. ref. 3).