

Ikranite $(\text{Na},\text{H}_3\text{O})_{15}(\text{Ca},\text{Mn},\text{REE})_6\text{Fe}^{3+}_2\text{Zr}_3(\square,\text{Zr})(\square,\text{Si})\text{Si}_{24}\text{O}_{66}(\text{O},\text{OH})_6\text{Cl}\cdot n\text{H}_2\text{O}$

Crystal Data: Hexagonal. *Point Group:* 3m. As tabular crystals to 2 cm.

Physical Properties: *Cleavage:* Imperfect. *Fracture:* Conchoidal. *Tenacity:* Brittle.
Hardness = 5 D(meas.) = 2.82(3) D(calc.) = 2.83

Optical Properties: Transparent. *Color:* Yellow to brownish yellow. *Streak:* White.
Luster: Vitreous.
Optical Class: Uniaxial (+). $\omega = 1.612(1)$ $\varepsilon = 1.615(2)$ Some grains anomalously biaxial.
Pleochroism: Weak, colorless to yellow.

Cell Data: *Space Group:* R3m. $a = 14.167(2)$ $c = 30.081(2)$ $Z = 3$

X-ray Powder Pattern: Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia.
2.841 (100), 2.963 (92), 4.30 (91), 3.521 (57), 3.205 (44), 6.41 (41), 2.588 (37)

Chemistry:	(1)		(1)
Na ₂ O	7.95	SiO ₂	48.91
K ₂ O	0.44	TiO ₂	0.37
CaO	6.29	ZrO ₂	13.94
SrO	1.61	HfO ₂	0.28
MnO	3.40	Nb ₂ O ₅	0.28
FeO	0.38	F	0.10
Fe ₂ O ₃	4.80	Cl	0.89
La ₂ O ₃	0.62	H ₂ O	7.70
Ce ₂ O ₃	1.53	- O = F + Cl	0.24
Nd ₂ O ₃	0.19	Total	99.44

(1) Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia; average of 3 electron microprobe analyses supplemented by IR spectroscopy, H₂O by TGA; corresponding to Na_{7.56}(H₃O)_{6.64}K_{0.27}Ca_{3.31}Sr_{0.46}Ce_{0.27}La_{0.11}Nd_{0.03}Mn²⁺_{1.41}Fe²⁺_{0.16}Fe³⁺_{1.77}Zr_{3.33}Ti_{0.14}Hf_{0.04}Nb_{0.06}Si₂₄O₇₂Cl_{0.74}•2.64H₂O.

Mineral Group: Eudialyte group.

Occurrence: In an agpaitic pegmatite in an alkaline igneous complex.

Association: Aegirine, microcline, lorenzenite, nepheline, lamprophyllite, murmanite, arfvedsonite.

Distribution: At Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia.

Name: From the Russian acronym IKRAN, for the Institut Kristallografi Rossiiskoy Akademii Nauk.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia.

References: (1) Chukanov, N.V., I.V. Pekov, A.E. Zadov, V.V. Korovushkin, I.A. Ekimenkova, and R.K. Rastsvetaeva (2003) Ikranite, (Na,H₃O)₁₅(Ca,Mn,REE)₆Fe³⁺₂Zr₃(□,Zr)(□,Si)Si₂₄O₆₆(O,OH)₆Cl•nH₂O and raslakite Na₁₅Ca₃Fe₃(Na,Zr)₃Zr₃(Si,Nb)(Si₂₅O₇₃)(OH,H₂O)₃(Cl,OH) - new eudialyte-group minerals from the Lovozero massif, Kola Peninsula. Zapiski Vseross. Mineral. Obshch., 132(5), 22-33 (in Russian, English abs.). (2) (2004) Amer. Mineral., 89, 1827-1828 (abs. ref. 1).