

Rastsvetaevite**Na₂₇K₈Ca₁₂Fe₃Zr₆Si₅₂O₁₄₄(OH, O)₆Cl₂**

Crystal Data: Hexagonal. *Point Group:* 3m. As irregular grains to 2 mm in aggregates to 2 cm.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = 5-6
D(meas.) = 2.86(2) D(calc.) = 2.84

Optical Properties: Transparent. *Color:* Reddish pink. *Streak:* White. *Luster:* Vitreous.
Optical Class: Uniaxial (+). $\omega = 1.598(1)$ $\varepsilon = 1.600(1)$

Cell Data: *Space Group:* R3m. $a = 14.249(1)$ $c = 60.969(7)$ $Z = 3$

X-ray Powder Pattern: Mt. Rasvumchorr, Khibiny massif, Kola Peninsula, Russia.
2.987 (100), 4.345 (81), 2.861 (73), 3.249 (57), 6.48 (47), 3.565 (41), 2.695 (40)

Chemistry:	(1)
Na ₂ O	13.76
K ₂ O	6.12
CaO	10.37
SrO	1.26
BaO	0.07
FeO	2.73
MnO	0.49
Ce ₂ O ₃	0.11
Al ₂ O ₃	0.17
SiO ₂	50.72
ZrO ₂	11.48
HfO ₂	0.14
TiO ₂	0.39
Nb ₂ O ₅	0.34
Ta ₂ O ₅	0.05
Cl	1.33
H ₂ O	0.89
-O = Cl ₂	0.30
Total	100.12

(1) Mt. Rasvumchorr, Khibiny massif, Kola Peninsula, Russia; average electron microprobe analysis supplemented by IR spectroscopy, H₂O by Penfield method; corresponds to
Na_{27.10}(K_{7.93}Ba_{0.03})_{Σ=7.97}(Ca_{11.29}Sr_{0.74}Cc_{0.04})_{Σ=12.07}(Fe_{2.32}Mn_{0.42})_{Σ=2.74}(Zr_{5.69}Ti_{0.30}Hf_{0.04})_{Σ=6.03}(Si_{51.53}
Al_{0.20}Nb_{0.16}Ta_{0.01})_{Σ=51.90}O₁₄₄[O_{2.14}(OH)_{1.86}]Cl_{2.29} · 1.71H₂O.

Mineral Group: Eudialyte group.

Occurrence: In alkaline pegmatite in zones of late intense potassium metasomatism.

Association: Nepheline, sodalite, potassium feldspar, aegirine, scherbakovite, villiaumite, natrite, nacaphite, rasvumite, davinciite.

Distribution: At Mt. Rasvumchorr, Khibiny alkaline massif, Kola Peninsula, Russia.

Name: Honors Russian crystallographer Ramiza K. *Rastsvetaeva* (b. 1936), Institute of Crystallography of the Russian Academy of Sciences, Moscow.

Type Material: A.E. Fersman Mineralogical Museum, Moscow, Russia.

References: (1) Khomyakov A P, Nechelyustov G N, Arakcheeva A V (2006) Rastsvetaevite, Na₂₇K₈Ca₁₂Fe₃Zr₆Si₄[Si₃O₉]₄[Si₉O₂₇]₄(O,OH,H₂O)₆Cl₂, a new mineral with a modular eudialyte-like structure and crystal-chemical systematics of the eudialyte group. Zap. Ross. Mineral. Obshch., 135(1), 49-65.