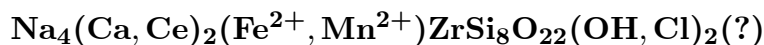


Eudialyte

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Crystal Data: Hexagonal. *Point Group:* $\bar{3} 2/m$. Crystals short rhombohedral with {0001} dominant, to long prismatic, up to 10 cm. More commonly as irregular masses and vein fillings.

Physical Properties: *Cleavage:* Perfect to indistinct on {0001}, imperfect on {11 $\bar{2}$ 0}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 5–6 D(meas.) = 2.74–3.10 D(calc.) = n.d.

Optical Properties: Translucent. *Color:* Brown, yellow-brown, yellow, pink, rose-red, cherry-red, red; colorless in thin section. *Luster:* Vitreous to dull.

Optical Class: Uniaxial (+) or (-). *Pleochroism:* Weak; *O* = colorless, pink, pale yellow; *E* = pink to colorless. $\omega = 1.588\text{--}1.636$ $\epsilon = 1.588\text{--}1.658$

Cell Data: *Space Group:* $R\bar{3}m$. $a = 13.95\text{--}14.29$ $c = 29.89\text{--}30.49$ $Z = 12$

X-ray Powder Pattern: Kipawa Lake, Canada; could be mistaken for alluaivite. 2.82 (100), 2.94 (90), 3.10 (80), 4.25 (50), 4.05 (40), 3.35 (40), 3.19 (40)

Chemistry:	(1)		(2)		
	(1)	(2)	(1)	(2)	
SiO ₂	50.35	50.14	CaO	9.74	11.18
TiO ₂	0.38	0.46	SrO	0.11	0.47
ZrO ₂	11.80	11.83	Na ₂ O	12.53	14.06
Al ₂ O ₃	0.44	0.07	K ₂ O	0.43	1.39
RE ₂ O ₃	6.40	0.37	F	0.23	
Fe ₂ O ₃	0.19	0.50	Cl	1.47	1.82
Nb ₂ O ₅	0.69	0.11	H ₂ O ⁺	1.64	1.07
FeO	2.41	5.32	H ₂ O ⁻		0.12
MnO	1.34	0.60	P ₂ O ₅	0.03	
MgO	0.13	0.24	S		0.04
			-O = (F, Cl) ₂	0.43	0.41
			Total	99.88	99.38

(1) Kipawa Lake, Canada; corresponds to $\text{Na}_{3.85}(\text{Ca}_{1.65}\text{RE}_{0.19}\text{K}_{0.17})_{\Sigma=2.01}(\text{Fe}_{0.32}^{2+}\text{Mn}_{0.18}^{2+}\text{Nb}_{0.06}\text{Mg}_{0.03})_{\Sigma=0.59}(\text{Zr}_{0.91}\text{Al}_{0.08}\text{Ti}_{0.04}\text{Fe}_{0.01}^{3+})_{\Sigma=1.04}\text{Si}_{8.02}\text{O}_{22}[(\text{OH})_{1.73}\text{Cl}_{0.39}]_{\Sigma=2.12}$. (2) Khibiny massif, Russia; corresponds to $\text{Na}_{4.29}(\text{Ca}_{1.88}\text{K}_{0.28}\text{RE}_{0.02})_{\Sigma=2.18}(\text{Fe}_{0.70}^{2+}\text{Mn}_{0.08}^{2+}\text{Mg}_{0.06}\text{Nb}_{0.01})_{\Sigma=0.85}(\text{Zr}_{0.98}\text{Fe}_{0.13}^{3+}\text{Ti}_{0.05}\text{Al}_{0.01})_{\Sigma=1.17}\text{Si}_{7.90}\text{O}_{22}[(\text{OH})_{1.12}\text{Cl}_{0.43}]_{\Sigma=1.55}$.

Occurrence: In nepheline syenites, alkalic granites, and associated pegmatites; may be a major constituent, of both magmatic and late-stage pneumatolytic origin.

Association: Microcline, nepheline, aegirine, lamprophyllite, lorenzenite, murmanite, arfvedsonite, sodalite, aenigmatite, rinkite, l avenite, titanite, titanian magnetite.

Distribution: Numerous localities, a number affording fine crystals. In Greenland, on the Kangerdluarssuk Plateau, in the Il maussaq intrusion, at Narss russuk, and elsewhere. Around the Langesundsfjord, Norway. In Russia, from the Lovozero and Khibiny massifs, Kola Peninsula; at Barynga Ridge, Taimyr; in the Burpala massif, about 120 km north of Lake Baikal, eastern Siberia. In the USA, from Magnet Cove, Hot Spring Co., Arkansas; at Point of Rocks, Colfax Co., and in a large deposit at Pajarito Mountain, Otero Co., New Mexico. In Canada, from Seal Lake and the Red Wine complex, Labrador, Newfoundland; in the Sheffield Lake complex, Kipawa River, Villedieu Township, and from Mont Saint-Hilaire and near Saint-Amable, Quebec. From Tenerife, Canary Islands.

Name: From the Greek for *easily* and *dissolved*, in allusion to its ready dissolution in acids. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.

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