

Crystal Data: Monoclinic. *Point Group:* 2/m. Crystals, prismatic, to 2 mm.

Physical Properties: *Cleavage:* Perfect on {110}, intersecting at 56°. *Fracture:* Splintery.
Tenacity: Brittle. *Hardness* = ~ 6 D(meas.) = n.d. D(calc.) = 3.14

Optical Properties: Transparent. *Color:* Light greenish blue. *Streak:* Greenish blue.
Luster: Vitreous. *Pleochroism:* X = pale green; Y = dark green; Z = pale green.
Orientation: Y = b; X ^ a = 62.9°.
Optical Class: Biaxial (-). a = 1.632(1) β = 1.638(1) γ = 1.643(1) 2V(meas.) = 98.0(4)°
2V(calc.) = 96.9°

Cell Data: *Space Group:* C2/m. a = 9.7043(5) b = 17.7341(8) c = 5.2833(3)
β = 104.067(4)° Z = 2

X-ray Powder Pattern: Norra Kärr, Gränna, Jönköping, Småland, Sweden.
2.687 (100), 4.435 (80), 3.377 (80), 2.527 (60), 8.342 (50), 3.096 (40), 2.259 (40)

Chemistry:	(1)
SiO ₂	58.61
TiO ₂	0.32
Al ₂ O ₃	7.06
Fe ₂ O ₃	6.05
FeO	3.27
MnO	0.73
ZnO	0.43
MgO	8.61
CaO	0.05
Na ₂ O	9.90
K ₂ O	2.43
Li ₂ O	1.62
F	3.37
H ₂ O	0.05
-O=F	1.42
Total	101.08

(1) Norra Kärr, Gränna, Jönköping, Småland, Sweden; average of 10 electron microprobe analyses, Fe₂O₃ and Li₂O from structure refinement, H₂O from stoichiometry, corresponding to (Na_{0.65}K_{0.43})_{Σ=1.09}(Na_{1.99}Ca_{0.01})_{Σ=2.00}(Mg_{1.77}Fe²⁺_{0.38}Mn_{0.09}Zn_{0.04}Fe³⁺_{0.63}Al_{1.16}Ti_{0.03}Li_{0.90})_{Σ=5.00}Si_{8.00}O₂₂(F_{1.47}OH_{0.53})_{Σ=2.00}.

Mineral Group: Amphibole group.

Occurrence: In nepheline syenite.

Association: Albite, aegirine.

Distribution: Norra Kärr, Gränna, Jönköping, Småland, Sweden.

Name: For its composition and relationship to leakeite.

Type Material: Department of Natural History, Royal Ontario Museum, Toronto, Canada (catalog no. M53897).

References: (1) Oberti, R., F. Cámara, F.C. Hawthorne, and N.A. Ball (2009) Fluoro-aluminoleakeite, NaNa₂(Mg₂Al₂Li)Si₈O₂₂F₂, a new mineral of the amphibole group from Norra Kärr, Sweden: description and crystal structure. *Mineral. Mag.*, 73, 817–824. (2) (2010) *Amer. Mineral.*, 95, 1359 (abs. ref. 1).