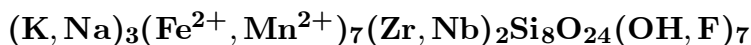


Zircophyllite



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Crystal Data: Triclinic, probable. *Point Group:* n.d. In platy micaceous crystals, to 2 cm.

Physical Properties: *Cleavage:* {001}, perfect. *Tenacity:* Extremely brittle.
Hardness = 4–4.5 D(meas.) = 3.34 D(calc.) = n.d.

Optical Properties: Semitransparent. *Color:* Dark brown to nearly black. *Streak:* Pale brown. *Luster:* Vitreous to adamantine.
Optical Class: Biaxial (-). *Pleochroism:* X = Y = dark yellow; Z = brown. *Orientation:* Y = a; X ∧ b = 9°–11°; Z ⊥ {001}. *Dispersion:* r > v, strong. α = 1.708 β = 1.738 γ = 1.747
2V(meas.) = 62°

Cell Data: *Space Group:* n.d. Z = n.d.

X-ray Powder Pattern: Korgeredabinsh massif, Russia.
3.50 (10), 2.80 (7), 2.66 (5), 2.10 (5), 9.80 (4), 3.75 (3), 3.26 (3)

Chemistry:

	(1)
SiO ₂	32.64
TiO ₂	2.30
ZrO ₂	13.61
HfO ₂	1.2
Nb ₂ O ₅	2.30
FeO	18.06
MnO	18.83
CaO	0.94
Na ₂ O	1.55
K ₂ O	5.61
F	1.20
H ₂ O	3.20
-O = F ₂	0.49
Total	99.75

(1) Korgeredabinsh massif, Russia; Hf by spectrographic analysis, traces of Y, Pb, Be, Sr, Ba; corresponds to (K_{1.70}Na_{0.71}Mn_{0.35}Ca_{0.24})_{Σ=3.00}(Fe_{3.57}Mn_{3.43})_{Σ=7.00}(Zr_{1.58}Nb_{0.25}Ti_{0.17})_{Σ=2.00}(Si_{7.76}Ti_{0.24})_{Σ=8.00}O₂₄[(OH)_{3.24}O_{2.84}F_{0.90}]_{Σ=6.98}•0.9H₂O.

Mineral Group: Astrophyllite group.

Occurrence: In the natrolite zone of alkalic pegmatites.

Association: “Aegirine-augite,” leucophanite, fluorite, apatite, apophyllite.

Distribution: From the Korgeredaba alkaline massif, Sangilen Upland, southeastern Tuva, Russia.

Name: For ZIRCONium in the composition and the Greek for *leaf*, in reference to its foliated, micaceous habit.

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

References: (1) Kapustin, Y.L. (1972) Zircophyllite, the zirconium analogue of astrophyllite. Zap. Vses. Mineral. Obshch., 101, 459–463 (in Russian). (2) (1973) Amer. Mineral., 58, 967 (abs. ref. 1).