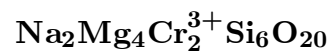


Krinovite

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Crystal Data: Triclinic, pseudomonoclinic. *Point Group:* $\bar{1}$. As disseminated subhedral grains, to 200 μm . *Twining:* Multiple twinning common.

Physical Properties: Hardness = 5.5–7 D(meas.) = 3.38 D(calc.) = 3.44

Optical Properties: Semitransparent. *Color:* Deep emerald-green.

Optical Class: Biaxial (+). *Pleochroism:* Intense; X = yellow-green; Y = blue-green; Z = greenish black, may be an anomalous dark reddish brown. *Orientation:* X = b. $\alpha = 1.712(2)$
 $\beta = 1.725(2)$ $\gamma = 1.760(5)$ $2V(\text{meas.}) = 61(2)^\circ$ $2V(\text{calc.}) = 64^\circ$

Cell Data: *Space Group:* $P\bar{1}$. $a = 10.238(4)$ $b = 10.642(4)$ $c = 8.780(3)$ $\alpha = 105.15(3)^\circ$
 $\beta = 96.50(4)^\circ$ $\gamma = 125.15(3)^\circ$ Z = 2

X-ray Powder Pattern: Canyon Diablo meteorite.

2.501 (100), 2.655 (90), 2.893 (80), 2.080 (70), 7.92 (60), 3.639 (60), 3.104 (60)

Chemistry:

	(1)	(2)
SiO ₂	48.1	49.00
TiO ₂	0.5	
Al ₂ O ₃	0.6	
Cr ₂ O ₃	19.1	20.66
FeO	1.8	
MnO	0.1	
MgO	19.7	21.91
CaO	0.1	
Na ₂ O	9.1	8.43
K ₂ O	0.0	
Total	99.1	100.00

(1) Canyon Diablo meteorite; by electron microprobe. (2) Na₂Mg₄Cr₂Si₆O₂₀.

Mineral Group: Aenigmatite group.

Occurrence: Disseminated within graphite nodules in some octahedrite iron meteorites.

Association: Graphite, roedderite, high albite, richterite, forsterite, kosmochlor, chromite.

Distribution: In the Canyon Diablo, Wichita County, and Younegin meteorites.

Name: For Evgeny Leonidovich Krinov, noted Russian investigator of meteorites.

Type Material: n.d.

References: (1) Olsen, E. and L. Fuchs (1968) Krinovite, NaMg₂CrSi₃O₁₀: a new meteorite mineral. *Science*, 161, 786–787. (2) (1969) *Amer. Mineral.*, 54, 578 (abs. ref. 1). (3) Bonaccorsi, E., S. Merlino, and M. Pasero (1989) The crystal structure of the meteoritic mineral krinovite, NaMg₂CrSi₃O₁₀. *Zeits. Krist.*, 187, 133–138.