

Crystal Data: Monoclinic. *Point Group:* 2/m. As prismatic to acicular crystals to 0.5 mm.

Physical Properties: *Cleavage:* Perfect on {110}. *Tenacity:* Brittle. *Fracture:* Splintery. Hardness = n.d. D(meas.) = 3.24 D(calc.) = 3.19 Nonfluorescent.

Optical Properties: Translucent. *Color:* Greenish brown. *Streak:* Gray-green. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.645(2)$ $\beta = 1.655(2)$ $\gamma = 1.660(2)$ $2V(\text{meas.}) = 60^\circ$ $2V(\text{calc.}) = 70^\circ$ *Pleochroism:* $X = \text{yellow pale-green}$, $Y = \text{green}$, $Z = \text{dark violet-brown}$. *Absorption:* $X < Y < Z$. *Dispersion:* Strong, $r > v$. *Orientation:* $X \wedge a = 44^\circ$ (in β obtuse), $Y \wedge c = 30^\circ$ (in β acute), $Z = b$.

Cell Data: *Space Group:* C2/m. $a = 9.9804(11)$ $b = 18.0127(19)$ $c = 5.2971(6)$ $\beta = 104.341(2)^\circ$ $Z = 2$

X-Ray Diffraction Pattern: Calculated pattern.

2.715 (100.0), 8.519 (80.5), 2.542 (73.2), 3.402 (67.3), 3.173 (65.0), 2.591 (44.1), 2.174 (42.0)

Chemistry:	(1)	(2)
SiO ₂	53.61	56.63
Al ₂ O ₃	0.04	
TiO ₂	1.09	
Fe ₂ O ₃	[7.00]	9.41
FeO	[11.04]	
MnO	0.33	
MgO	11.99	18.99
CaO	1.53	
Na ₂ O	6.32	7.30
K ₂ O	4.50	5.55
F	0.46	
H ₂ O	[1.59]	
-O = F ₂	0.019	2.12
Total	99.60	100.00

(1) Buhovo-Seslavtsi pluton, Bulgaria; average electron microprobe analysis supplemented by Mössbauer spectroscopy, Fe₂O₃, FeO and H₂O calculated; corresponding to ${}^A(\text{K}_{0.86}\text{Na}_{0.07})_{\Sigma=0.93} {}^B(\text{Na}_{1.75}\text{Ca}_{0.25}\text{Mn}^{2+}_{0.01})_{\Sigma=2.01} {}^C(\text{Mg}_{2.67}\text{Fe}^{2+}_{1.42}\text{Fe}^{3+}_{0.76}\text{Ti}_{0.12}\text{Mn}^{2+}_{0.03})_{\Sigma=5.00} {}^T\text{Si}_8\text{O}_{22}{}^W[(\text{OH})_{1.58}\text{F}_{0.22}\text{O}_{0.20}]_{\Sigma=2.00}$.
(2) $\text{KNa}_2(\text{Mg}_4\text{Fe}^{3+})\text{Si}_8\text{O}_{22}(\text{OH})_2$.

Mineral Group: Amphibole supergroup.

Occurrence: In syenitic and granitic dikes the product of strongly peralkaline and potassic magma.

Association: Quartz, potassium feldspar, aegirine-augite, quartz, zircon, magnetite, ilmenite, titanite; hematite, pyrite, galena.

Distribution: From the Buhovo-Seslavtsi pluton, Bulgaria.

Name: Signifies an amphibole of the *arfvedsonite* group with dominant Mg^{2+} in the C site and dominant K^+ in the A site.

Type Material: Museum of Mineralogy and Petrology, Sofia University, Bulgaria (M7661).

References: (1) Dyulgerov, M., R. Oberti, B. Platevoet, M. Kadiyski, and V. Rusanov (2019) Potassic-magnesio-arfvedsonite, $\text{KNa}_2(\text{Mg}_4\text{Fe}^{2+}\text{Fe}^{3+})\text{Si}_8\text{O}_{22}(\text{OH})_2$: mineral description and crystal chemistry. *Mineral. Mag.*, 83, 465-472. (2) Hawthorne, F.C., R. Oberti, G.E. Harlow, W.V. Maresch, R.F. Martin, J.C. Schumacher, and M.D. Welch (2012) Nomenclature of the amphibole supergroup. *Amer. Mineral.*, 97, 2031-2048.