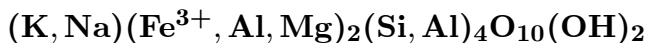


Glaucosite



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Crystal Data: Monoclinic. *Point Group:* m or $2/m$. In grains or pellets composed partly of aggregates of small micaceous crystals.

Physical Properties: *Cleavage:* {001}, perfect. *Hardness* = 2 *D*(meas.) = 2.4–2.95 *D*(calc.) = 2.903

Optical Properties: Translucent to nearly opaque. *Color:* Grass-green, yellow-green, blue-green; in thin section, green, yellow, olive-green. *Luster:* Dull, glistening. *Optical Class:* Biaxial (-). *Pleochroism:* X = yellow-green, green; $Y = Z$ = deeper yellow, bluish green. *Orientation:* $Y = b$; $Z \simeq a$; $X \wedge a \simeq 10^\circ$. *Dispersion:* $r > v$. *Absorption:* $Y \simeq Z > X$. $\alpha = 1.592\text{--}1.610$ $\beta = 1.614\text{--}1.641$ $\gamma = 1.614\text{--}1.641$ $2V(\text{meas.}) = 0^\circ\text{--}20^\circ$

Cell Data: *Space Group:* Cm or $C2/m$. $a = 5.25\text{--}5.31$ $b = 9.09\text{--}9.19$ $c = 10.03\text{--}10.15$ $\beta = \sim 100^\circ$ $Z = 2$

X-ray Powder Pattern: Anzoategni, Venezuela. (ICDD 9-439).
10.1 (100), 2.587 (100), 4.53 (80), 3.33 (60), 2.396 (60), 1.511 (60), 3.63 (40)

Chemistry:	(1)	(2)	(1)	(2)	
SiO ₂	49.29	46.52	CaO	0.74	0.51
TiO ₂	0.12		Na ₂ O	0.12	0.19
Al ₂ O ₃	3.17	4.61	K ₂ O	6.02	7.65
Fe ₂ O ₃	21.72	24.76	H ₂ O ⁺	7.21	5.83
FeO	3.19	2.02	H ₂ O ⁻	4.60	3.20
MgO	3.85	4.65	P ₂ O ₅	0.32	0.08
			<hr/>		
			Total	100.35	100.02

(1) Whare Flat, Otago, New Zealand; corresponds to $(\text{K}_{0.60}\text{Ca}_{0.06}\text{Na}_{0.02})_{\Sigma=0.68}(\text{Fe}^{3+}_{1.27}\text{Mg}_{0.44}\text{Fe}_{0.21}\text{Al}_{0.11})_{\Sigma=2.03}(\text{Si}_{3.82}\text{Al}_{0.18})_{\Sigma=4.00}\text{O}_{10}(\text{OH})_2$. (2) Makhtesh Ramon, Israel; corresponds to $(\text{K}_{0.76}\text{Ca}_{0.04}\text{Na}_{0.03})_{\Sigma=0.83}(\text{Fe}^{3+}_{1.33}\text{Mg}_{0.54}\text{Fe}_{0.13}\text{Al}_{0.06})_{\Sigma=2.06}(\text{Si}_{3.64}\text{Al}_{0.36})_{\Sigma=4.00}\text{O}_{10}(\text{OH})_2$.

Polymorphism & Series: 1M polytype.

Mineral Group: Mica group.

Occurrence: Altered from detrital biotite or other parent materials, by marine diagenesis in shallow water under reducing conditions; especially in loosely consolidated sandstone (greensand), and impure limestone and siltstone.

Association: Quartz, feldspars, glaucophane, dolomite, siderite, calcite, ankerite, pyrite, "limonite".

Distribution: Worldwide in marine sediments. A few localities for studied material are: on the Otago Peninsula, New Zealand. From the Flinders Ranges and Yorke Peninsula, South Australia. Around Sandwich and Folkestone, Kent, and Hollybush Hill, Worcester, England. At Villers-sur-Mer, Calvados, France. From Verona, Vicenza, Italy. At a number of localities in Israel. From the N'Chwaning mine, near Kuruman, Cape Province, South Africa. In the USA, particularly widespread in Alabama; from Burnet Co., Texas; both on and offshore in several of the coastal counties of California; from Baker Co., Oregon; in the Black Hills of South Dakota.

Name: From the Greek *glaucos*, for *bluish green*.

References: (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 683–684. (2) Deer, W.A., R.A. Howie, and J. Zussman (1963) Rock-forming minerals, v. 3, sheet silicates, 35–41. (3) Bendor, Y.K. and M. Kastner (1965) Notes on the mineralogy and origin of glaucosite. *J. Sed. Petrol.*, 35, 155–166. (4) Buckley, H.A., J.C. Bevan, K.M. Brown, L.R. Johnson, and V.C. Farmer (1978) Glaucosite and celadonite: two separate mineral species. *Mineral. Mag.*, 42, 373–382.

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