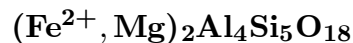


Sekaninaite



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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As poorly developed crystals, to 70 μm . *Twining:* Commonly twinned on $\{110\}$ and $\{310\}$, simulating hexagonal symmetry.

Physical Properties: *Cleavage:* $\{100\}$, imperfect; parting on $\{001\}$. Hardness = 7–7.5
D(meas.) = 2.76–2.77 D(calc.) = 2.78

Optical Properties: Transparent to translucent. *Color:* Blue to blue-violet.
Luster: Vitreous.

Optical Class: Biaxial (-). *Pleochroism:* X = colorless; Y = blue; Z = pale blue. *Orientation:* X = c; Y = b; Z = a. *Dispersion:* $r < v$, moderate. *Absorption:* $Y > Z > X$. $\alpha = 1.561$
 $\beta = 1.572$ $\gamma = 1.576$ $2V(\text{meas.}) = 66^\circ$

Cell Data: *Space Group:* $Cccm$. $a = 17.230(5)$ $b = 9.835(3)$ $c = 9.314(3)$ $Z = 4$

X-ray Powder Pattern: Dolní Bory, Czech Republic.
8.583 (100), 3.386 (100), 3.376 (100), 4.081 (83), 3.076 (74), 3.143 (64), 3.043 (57)

Chemistry:

	(1)
SiO ₂	45.10
TiO ₂	0.04
Al ₂ O ₃	30.63
Fe ₂ O ₃	0.91
FeO	17.85
MnO	0.92
MgO	1.69
CaO	0.39
Na ₂ O	0.68
K ₂ O	0.03
H ₂ O ⁺	1.84
H ₂ O ⁻	0.12
Total	100.20

(1) Dolní Bory, Czech Republic; corresponding to $(\text{Fe}_{1.63}^{2+}\text{Mg}_{0.28}\text{Na}_{0.14}\text{Mn}_{0.09}\text{Ca}_{0.05})_{\Sigma=2.19}$
 $(\text{Al}_{3.94}\text{Fe}_{0.08}^{3+})_{\Sigma=4.02}\text{Si}_{4.93}\text{O}_{18} \cdot 0.67\text{H}_2\text{O}$.

Polymorphism & Series: Forms a series with cordierite.

Occurrence: In the albite zone of pegmatites in granulites and gneisses (Dolní Bory, Czech Republic); in bauxitic lithomarge intensely altered by a diabase plug (Brockley, Ireland).

Association: Albite, quartz (Dolní Bory, Czech Republic).

Distribution: From Dolní Bory, near Velké Meziříčí, Czech Republic. At Brockley, Rathlin Island, Co. Antrim, Ireland. From Gåsborn, Bergslagen, Sweden. At Filone Rosina, Elba, Italy. In Japan, from Kitasugama, Fukushima Prefecture; Sasago and Doshi, Yamanashi Prefecture; Ide, Kyoto Prefecture; Ishii, Yamaguchi Prefecture; and in the Hanoka mine, Kagoshima Prefecture.

Name: For Professor Josef Sekanina (1901–), Czech mineralogist who first discovered the mineral.

Type Material: Moravian Museum, Brno, Czech Republic, A6108.

References: (1) Stanek, J. and J. Miskovsky (1975) Sekaninaite, a new mineral of the cordierite series, from Dolni Bory, Czechoslovakia. *Scr. Fac. Sci. Nat. Ujep Brun.*, Geol. 1(5), 21–30. (2) (1977) *Amer. Mineral.*, 62, 395 (abs. ref. 1). (3) Hochella, M.F., Jr., G.E. Brown, Jr., F.K. Ross, and G.V. Gibbs (1979) High-temperature crystal chemistry of hydrous Mg- and Fe-cordierites. *Amer. Mineral.*, 64, 337–351. (4) Ryback, G., R. Nawaz, and E. Farley (1988) Seventh supplementary list of British Isles minerals (Irish). *Mineral. Mag.*, 52, 267–274.

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