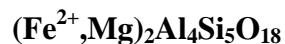


Ferroindialite



Crystal Data: Hexagonal. *Point Group:* 6/m 2/m 2/m. As hexagonal prismatic or tabular crystals, to 1.5 mm.

Physical Properties: *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 7 D(meas.) = 2.66(1) D(calc.) = 2.667

Optical Properties: Transparent. *Color:* Brownish purple to gray with a violet-blue tint. *Streak:* White. *Luster:* Vitreous. *Pleochroism:* Weak, X = colorless, Z = pale violet. *Dispersion:* $r < v$, weak. *Optical Class:* Biaxial (-) [anomalous]. $\alpha = 1.539(2)$ $\beta = 1.552(2)$ $\gamma = 1.554(2)$ $2V(\text{meas.}) = 30(10)^\circ$

Cell Data: *Space Group:* P6/mcc. $a = 9.8759(3)$ $c = 9.3102(3)$ $Z = 2$

X-ray Powder Pattern: Bellerberg Mountain, Eifel region, Germany.
8.59 (100), 3.390 (35), 3.055 (31), 4.094 (27), 3.147 (19), 2.657 (12), 1.695 (9)

Chemistry:	(1)
Na ₂ O	0.14
K ₂ O	0.46
MgO	4.95
MnO	1.13
FeO	12.66
Fe ₂ O ₃	2.64
Al ₂ O ₃	30.45
<u>SiO₂</u>	<u>47.22</u>
Total	99.65

(1) Bellerberg Mountain, Eifel region, Germany; average of 5 electron microprobe analyses, Fe²⁺ and Fe³⁺ calculated from structure refinement, absence of OH⁻ and H₂O confirmed by IR spectroscopy; corresponding to $(\text{K}_{0.06}\text{Na}_{0.03})(\text{Fe}^{2+}_{1.12}\text{Mg}_{0.78}\text{Mn}_{0.10})_{\Sigma=2.00}(\text{Al}_{3.79}\text{Fe}^{3+}_{0.21})_{\Sigma=4.00}\text{Si}_{4.98}\text{O}_{18}$.

Mineral Group: Beryl group.

Occurrence: In a metamorphosed pelitic xenolith in alkaline basalt.

Association: Sillimanite, sanidine, phlogopite, enstatite-ferrosilite, wagnerite, fluorapatite, tridymite, zircon, high-Mg almandine.

Distribution: From the Caspar quarry, Bellerberg Mountain, near Mayen, Eifel region, Rheinland-Pfalz, Germany.

Name: As the iron-dominant (*ferro*) analog of *indialite*.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (# 4400/1).

References: (1) Chukanov, N.V., S.M. Aksenov, I.V. Pekov, B. Ternes, W. Schüller, D.I. Belakovskiy, K.V. Van, and G. Blass (2014) Ferroindialite $(\text{Fe}^{2+}, \text{Mg})_2\text{Al}_4\text{Si}_5\text{O}_{18}$ - a new beryl-group mineral from the Eifel volcanic region, Germany. *Zap. Ross. Mineral. Obshch.*, 143(1), 46-56 (in Russian with English abstract). *Geology of Ore Deposits*, 56(8), 637–643 (in English). (2) (2015) Amer. Mineral., 100, 334-335 (abs. ref. 1).