Magbasite

**Crystal Data:** Orthorhombic. *Point Group: 2/m 2/m 2/m.* As bundles of prismatic and acicular crystals elongated along [001] forming subparallel and fan-shaped aggregates, to 5 mm.


D(meas.) = 3.41 D(calc.) = 3.374

**Optical Properties:** Transparent to translucent. *Color:* Colorless to pinkish violet. *Luster:* Vitreous. *Optical Class:* Biaxial (-). *α = 1.597(1) β = 1.612(1) γ = 1.618(1) 2V(meas.) = 65(5)° *Dispersion:* Moderate, r > v. *Orientation:* X = a, Y = b, Z = c.

**Cell Data:** Space Group: Cmme (Cmma). *a = 18.9506(3) b = 22.5045(3) c = 5.2780(1) Z = 4

**Chemistry:**

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\begin{align*}
K_2O & \quad 3.62 \\
BaO & \quad 13.96 \\
MgO & \quad 23.33 \\
MnO & \quad 0.54 \\
FeO & \quad [3.42] \\
Fe_2O_3 & \quad [6.42] \\
Al_2O_3 & \quad 0.88 \\
SiO_2 & \quad 42.32 \\
F & \quad 9.81 \\
H_2O & \quad [1.74] \\
-O = F_2 & \quad 4.13 \\
Total & \quad 101.91 \\
\end{align*}
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(1) Eldor carbonatite complex, Quebec, Canada; by electron microprobe, average of 12 analyses supplemented by Raman spectroscopy; H_2O calculated from structure, FeO/Fe_2O_3 apportioned from total Fe as Fe_2O_3 = 10.22; corresponds to K_{0.86}Ba_{0.12}Mg_{6.58}Fe^{3+}_{0.53}Fe^{2+}_{0.90}Al_{0.18}Si_{7.90}O_{22.04}(OH)_{2.17}F_{5.79}.

**Occurrence:** In thin veins cutting ferrodolomite- and siderite-carbonatites (Canada).

**Association:** Phlogopite, quartz, siderite, Fe-rich dolomite, Nb-rich rutile, bafertisite, monazite-(Ce), rare-earth fluoro-carbonates (bastnäsite-parisite), fluorite (Canada).

**Distribution:** From Bayan Obo, Inner Mongolia, China. In the Eldor carbonatite complex, northeastern Quebec, Canada.

**Name:** For MADgnesium and BArium in its chemical composition.

**Type Material:** n.d.