

Shabynite

$\text{Mg}_5(\text{BO}_3)(\text{Cl}, \text{OH})_2(\text{OH})_5 \cdot 4\text{H}_2\text{O}$

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Crystal Data: Monoclinic (?). *Point Group:* n.d. Fine fibrous, in veinlets, to 1 cm thick.

Physical Properties: *Tenacity:* Elastic. Hardness = 3 D(meas.) = 2.32 D(calc.) = n.d.

Optical Properties: Semitransparent. *Color:* Snow-white.

Optical Class: Biaxial (-). *Orientation:* X || elongation, parallel extinction. $\alpha = 1.543(2)$
 $\beta = 1.571(3)$ $\gamma = 1.577(2)$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* n.d. $Z = \text{n.d.}$

X-ray Powder Pattern: Korshunovskoye deposit, Russia.

9.27 (10), 2.439 (8), 3.69 (7b), 5.47 (6), 2.377 (6), 4.21 (5), 1.798 (5)

| Chemistry: | (1) | | (1) | |
|------------|--------------------------------|-------|-------------------------------|-------|
| | SiO ₂ | 0.05 | Na ₂ O | 0.29 |
| | TiO ₂ | 0.01 | K ₂ O | 0.03 |
| | B ₂ O ₃ | 8.08 | F | 0.06 |
| | Al ₂ O ₃ | 0.00 | Cl | 13.06 |
| | Fe ₂ O ₃ | 0.18 | H ₂ O ⁺ | 27.18 |
| | MnO | 0.34 | H ₂ O ⁻ | 3.00 |
| | MgO | 50.20 | -O = (F, Cl) ₂ | 2.95 |
| | CaO | 0.40 | | |
| | | | Total | 99.93 |

(1) Korshunovskoye deposit, Russia; $(\text{BO}_3)^{3-}$, $(\text{OH})^{1-}$, H₂O confirmed by IR; corresponds to $\text{Mg}_{5.05}(\text{BO}_3)_{0.94}[\text{Cl}_{1.49}(\text{OH})_{0.79}]_{\Sigma=2.28}(\text{OH})_5 \cdot 3.90\text{H}_2\text{O}$.

Occurrence: As veinlets in a brecciated dolomitic marble in a skarn magnetite deposit.

Association: Dolomite, korshunovskite, ekaterinite, dashkovaite, iowaite, halite.

Distribution: From the Korshunovskoye iron–boron skarn deposit, Irkutsk district, Siberia, Russia.

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Type Material: Mining Institute, St. Petersburg, 1225/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 80672; National Museum of Natural History, Washington, D.C., USA, 160483.

References: (1) Pertsev, N.N., S.V. Malinko, V.A. Vakhrushev, B.P. Fitsev, E.V. Sokolova, and I.B. Nikitina (1980) Shabynite – a new hydrated borate-chloride of magnesium. *Zap. Vses. Mineral. Obshch.*, 109, 569–573 (in Russian). (2) (1981) *Amer. Mineral.*, 66, 1101 (abs. ref. 1).