

Buryatite**Ca₃(Si, Fe³⁺, Al)(SO₄)B(OH)₄(OH, O)₆·12H₂O**

Crystal Data: Hexagonal. *Point Group:* 3*m*. As lenticular and streaky segregations, to 10 mm, comprised of finely dispersed particles, iridescent platelets, and rare tabular crystals to 10 μm displaying {001} and {100}.

Physical Properties: *Cleavage:* Perfect {100}. *Tenacity:* Sectile. *Fracture:* n.d. Hardness = 2.5 D(meas.) = n.d. D(calc.) = 1.895(10) Soluble in dilute HCl and H₂SO₄. Weak light-blue fluorescence in SW UV.

Optical Properties: Transparent to translucent. *Color:* Light gray with a lilac tint. *Streak:* White. *Luster:* Dull. *Optical Class:* Uniaxial. $\omega = 1.532(3)$ $\varepsilon = 1.523(3)$

Cell Data: *Space Group:* P31*c* (possible). $a = 11.14(1)$ $c = 20.99(5)$ $Z = 4$

X-ray Powder Pattern: Solongo deposit, Buryatiya, Russia. 2.596 (100), 2.121 (90), 9.70 (80), 1.498 (70), 2.736 (60), 2.374 (60), 1.833 (60)

Chemistry:	(1)
CaO	25.88
SiO ₂	5.60
B ₂ O ₃	5.7
Fe ₂ O ₃	2.20
Al ₂ O ₃	0.75
MnO ₂	0.27
MgO	0.38
SO ₃	12.52
<u>H₂O</u>	<u>45.8</u>
Total	99.10

(1) Solongo deposit, Buryatiya, Russia; average electron microprobe analysis supplemented by IR spectroscopy, B by atomic emission spectroscopy, H₂O by LOI; corresponding to Ca_{6.00}(Si_{1.21}Fe³⁺_{0.36}Al_{0.19}Mg_{0.12}Mn⁴⁺_{0.04})_{Σ=1.92}[SO₄]_{2.03}[B(OH)₄]_{2.13}[(OH)_{11.30}O_{0.70}]_{23.13}H₂O.

Mineral Group: Ettringite group.

Occurrence: From drill core containing frolovite veinlets in kurchatovite-sakhaite ore.

Association: Calcite, magnetite, brucite, fluoborite.

Distribution: At the Solongo deposit, Buryatiya, Russia.

Name: For the type locality.

Type Material: A.E. Fersman Mineralogical Museum, Moscow, Russia.

References: (1) Malinko, S.V., N.V. Chukanov, V.T. Dubinchuk, A.E. Zadov, and E.V. Koporulina (2001) Buryatite, Ca₃(Si,Fe³⁺,Al)[SO₄][B(OH)₄](OH)₅O·12H₂O, a new mineral. Zap. Vseross. Mineral. Obshch., 130(2), 72-78 (in Russian, English abs.). (2) (2002) Amer. Mineral., 87, 1509 (abs. ref. 1).