

Buryatite



HEXAGONAL

Locality: The Solongo deposit, Buryatiya, Russia.

Occurrence: Found in drill core in kurchatovite–sakhaite ore. Associated minerals are: calcite, fluoborite, frolovite, magnetite, kurchatovite, clinokurchatovite, fedorovskite, sakhaite, vimsite, pentahydroborite, hexahydroborite and borcarite.

General appearance: Fine-grained aggregates (up to 3 H 10 mm) and tabular crystals (up to 10 μm).

Physical, chemical and crystallographic properties: *Luster:* dull. *Diaphaneity:* transparent to translucent. *Color:* light gray with a lilac tint. *Streak:* white. *Luminescence:* fluoresces light blue in short-wave ultraviolet light. *Hardness:* 2½. *Tenacity:* sectile. *Cleavage:* {100} perfect. *Fracture:* rough. *Density:* could not be measured, 1.90 g/cm³ (calc.). **Crystallography:** Hexagonal, *P*31*c*, *a* 11.14, *c* 20.99 Å, *V* 2256 Å³, *Z* = 4, *c*:*a* = 1.8842. Morphology: {001} and {100}. Twinning: none observed. **X-ray powder-diffraction data:** 9.70(8)(100), 3.85(6)(105,114), 3.040(8db)(032,214), 2.736(6)(304), 2.596(10)(312), 2.374(6)(134), 2.121(9)(136), 1.833(6)(332), 1.498(7)(248); db: double line. **Optical data:** Uniaxial (+), *T* 1.523, *g* 1.532, nonpleochroic. The optic sign is given as (–), but the indices indicate (+). **Chemical analytical data:** Mean of three sets of electron-microprobe data (B₂O₃ by atomic emission spectroscopy): MgO 0.38, CaO 25.88, B₂O₃ 5.70, Al₂O₃ 0.75, Fe₂O₃ 2.20, SiO₂ 5.60, MnO₂ 0.27, SO₃ 12.52, H₂O 45.80, Total 99.10 wt.%. Empirical formula: Ca_{3.01}(Si_{0.61}Fe³⁺_{0.18}Al_{0.10}Mg_{0.06}Mn⁴⁺_{0.02})Σ0.97(SO₄)_{1.02}[B(OH)₄]_{1.07}[(OH)_{5.61}O_{0.39}]_{Σ6.00}•11.64H₂O. **Relationship to other species:** It is a member of the ettringite group.

Name: After the locality.

Comments: IMA No. 2000–021.

MALINKO, S.V., CHUKANOV, N.V., DUBINCHUK, V.T., ZADOV, A.E. & KOPORULINA, E.V. (2001): Buryatite Ca₃(Si,Fe³⁺,Al)[SO₄][B(OH)₄](OH)₅•12H₂O, a new mineral. *Zapiski Vserossiyskogo Mineralogicheskogo Obshchestva* 130(2)72-78 (in Russ.).