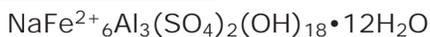


Nikischerite



TRIGONAL

Locality: Huanuni tin mine, about 50 km southeast of Oruro City, Dalence Province, Oruro Department, Bolivia.

Occurrence: Nikischerite does not occur in the cassiterite-bearing veins themselves, but rather in a later, low-temperature paragenesis filling fault zones that cut across the cassiterite veins. Associated minerals are: pyrite, pyrrhotite, siderite and cronstedtite in a brownish clay matrix.

General appearance: Small micaceous plates (up to 4 mm) forming isolated radiating balls comprised of stacked plates and aggregates up to almost 1 cm across. A second occurrence, found in the early 1990s, consists of dull, tabular aggregates on vivianite crystals.

Physical, chemical and crystallographic properties: *Luster:* dull to greasy. *Diaphaneity:* transparent to translucent. *Color:* Georgian green (RHS #139B), darker at the edges of aggregates and approaches grayish white at the cores. *Streak:* pale grayish green. *Luminescence:* nonfluorescent. *Hardness:* 2. *Tenacity:* brittle. *Cleavage:* {001} perfect. *Fracture:* irregular. *Density:* 2.33 g/cm³ (meas.), 2.34 g/cm³ (calc.). **Crystallography:** Trigonal, $R\bar{3}$, a 9.352, c 33.08 Å, V 2505 Å³, Z = 3, $c:a$ = 3.5372. *Morphology:* {001}. *Twinning:* none observed. **X-ray powder-diffraction data:** 10.980(100)(003), 5.539(60)(006), 4.311(20)(113), 3.674(50)(009), 2.624(25)(033), 2.425(30)(036), 2.176(20)(039), 1.932(30)(0.3.12). **Optical data:** Uniaxial (-), T 1.560, g could not be determined, nonpleochroic. **Chemical analytical data:** Mean of an unspecified number of sets of electron-microprobe data (with H₂O calculated to give 42 H): Na₂O 2.43, FeO 43.59, Al₂O₃ 14.35, SO₃ 13.54, H₂O (35.06), Total (108.97) wt.%. Empirical formula: Na_{0.85}Fe²⁺_{6.55}Al_{3.04}(SO₄)_{1.83}(OH)_{19.41}•11.30H₂O. **Relationship to other species:** It is the Fe²⁺-dominant analogue of shigaite, NaMn²⁺₆Al₃(SO₄)₂(OH)₁₈•12H₂O, and motukoreaite, NaMg₆Al₃(SO₄)₂(OH)₁₈•12H₂O.

Name: After Anthony (Tony) J. Nikischer (b. 1949), amateur mineralogist and mineral dealer of Peekskill, New York.

Comments: IMA No. 2001–039. Tony Nikischer kindly provided some of the data not given in the paper.

HUMINICKI, D.M.C., HAWTHORNE, F.C., GRICE, J.D., ROBERTS, A.C. & JAMBOR, J.L. (2003): Nikischerite, a new mineral from the Huanuni tin mine, Dalence Province, Oruro Department, Bolivia. *Mineralogical Record* 34, 155-158.

HUMINICKI, D.M.C. & HAWTHORNE, F.C. (2003): The crystal structure of nikischerite, NaFe²⁺₆Al₃(SO₄)₂(OH)₁₈(H₂O)₁₂, a mineral of the shigaite group. *Canadian Mineralogist* 41, 79-82.