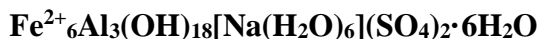


Nikischerite

Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. As micaceous {00*1} plates, to 4 mm, that form radiating, irregular spherical aggregates and seams to 1 cm.

Physical Properties: *Cleavage:* Perfect on {00*1}. *Fracture:* Irregular. *Tenacity:* Brittle. Hardness = 2 D(meas.) = 2.33(2) D(calc.) = 2.30

Optical Properties: Transparent to translucent. *Color:* Green to grayish white; colorless to grayish white in transmitted light. *Streak:* Pale grayish green. *Luster:* Dull to greasy. *Optical Class:* Uniaxial (-). $\omega = 1.560(1)$ $\epsilon =$ not determinable. Non-pleochroic.

Cell Data: *Space Group:* $R\bar{3}$. $a = 9.352(7)$ $c = 33.08(4)$ $Z = 3$

X-ray Powder Pattern: Huanuni tin mine, Dalence Province, Oruro Department, Bolivia. 10.980 (100), 5.539 (60), 3.674 (50), 2.425 (30), 1.932 (30), 2.624 (25), 4.311 (20)

Chemistry:	(1)
Na ₂ O	2.43
FeO	43.59
Al ₂ O ₃	14.35
SO ₃	13.54
<u>H₂O</u>	<u>[35.06]</u>
Total	108.97

(1) Huanuni tin mine, Dalence Province, Oruro Department, Bolivia; average of 18 electron microprobe analyses supplemented by IR spectroscopy, H₂O calculated; corresponding to Na_{0.85}Fe²⁺_{6.55}Al_{3.04}S_{1.83}O₈(OH)₁₈(H₂O)₁₂.

Mineral Group: Shigaite group.

Occurrence: On and within clay matrix in a hydrothermal vein polymetallic tin deposit.

Association: Pyrite, pyrrhotite, siderite, cronstedtite, vivianite.

Distribution: From the Huanuni tin mine, Dalence Province, Oruro Department, Bolivia.

Name: Honors American geologist and mineral dealer Anthony (Tony) J. *Nikischer* (b. 1949), who discovered the mineral and who has for many years supplied rare minerals for scientific study.

Type Material: Canadian Museum of Nature, Ottawa, Ontario, Canada (CMNMC 83499).

References: (1) Huminicki, D.M.C., F.C. Hawthorne, J.D. Grice, A.C. Roberts, and J.L. Jambor (2003) Nikischerite, a new mineral from the Huanuni tin mine, Dalence Province, Oruro Department, Bolivia. *Mineral. Record*, 34, 155-158. (2) Huminicki, D.M.C. and F.C. Hawthorne (2003) The crystal structure of nikischerite, NaFe²⁺₆Al₃(SO₄)₂(OH)₁₈(H₂O)₁₂, a mineral of the shigaite group. *Can. Mineral.*, 41, 79-82. (3) (2003) *Amer. Mineral.*, 88, 1838 (abs. refs. 1 and 2).