

**Crystal Data:** Tetragonal. *Point Group:* n.d. As a micallike aggregate of fine scales.

**Physical Properties:** *Cleavage:* One direction, good. Hardness = 2 D(meas.) = 3.147, possibly lowered by admixed quartz. D(calc.) = [3.53]

**Optical Properties:** Translucent. *Color:* Pale lilac or grayish lilac. *Luster:* Silky. *Optical Class:* Uniaxial (-).  $\omega = 1.80$   $\epsilon = 1.74$

**Cell Data:** *Space Group:* n.d.  $a = 7.00(5)$   $c = 29.0(1)$   $Z = 2$

**X-ray Powder Pattern:** Khan-Bogdinskii massif, Mongolia.

3.163 (100), 2.974 (70), 3.087 (65), 9.67 (45), 5.82 (45), 2.664 (40), 2.901 (35)

**Chemistry:**

|                                | (1)      | (2)      |
|--------------------------------|----------|----------|
| SiO <sub>2</sub>               | 22.05    | 22.34    |
| TiO <sub>2</sub>               | 0.02     | 0.07     |
| Al <sub>2</sub> O <sub>3</sub> | 0.81     | 0.86     |
| Nb <sub>2</sub> O <sub>5</sub> | 53.13    | 51.77    |
| MnO                            | 1.15     | 0.86     |
| ZnO                            | 0.41     | 0.90     |
| MgO                            | 0.07     | 0.12     |
| CaO                            | 12.38    | 11.97    |
| SrO                            | 2.11     | 1.83     |
| BaO                            | 0.71     | 0.73     |
| Na <sub>2</sub> O              | 0.72     | 0.26     |
| K <sub>2</sub> O               | 0.49     | 0.38     |
| H <sub>2</sub> O               | 6.70     | 8.74     |
| Total                          | [100.75] | [100.83] |

(1) Khan-Bogdinskii massif, Mongolia; by electron microprobe, original total given as 100.76%; corresponds to (Ca<sub>3.01</sub>Na<sub>0.31</sub>Sr<sub>0.28</sub>K<sub>0.14</sub>Ba<sub>0.06</sub>)<sub>Σ=3.80</sub>(Nb<sub>5.45</sub>Al<sub>0.22</sub>Mn<sub>0.22</sub>Zn<sub>0.07</sub>Mg<sub>0.03</sub>)<sub>Σ=5.99</sub>Si<sub>5</sub>O<sub>27.84</sub>•5.07H<sub>2</sub>O. (2) Do.; original total given as 100.82%; corresponds to (Ca<sub>2.87</sub>Sr<sub>0.24</sub>Na<sub>0.11</sub>K<sub>0.11</sub>Ba<sub>0.06</sub>)<sub>Σ=3.39</sub>(Nb<sub>5.24</sub>Al<sub>0.23</sub>Mn<sub>0.16</sub>Zn<sub>0.15</sub>Mg<sub>0.04</sub>)<sub>Σ=5.82</sub>Si<sub>5</sub>O<sub>27.07</sub>•6.53H<sub>2</sub>O.

**Occurrence:** In the quartz-rich core zone of an alkalic pegmatite, as a late-stage alteration product of a niobium silicate.

**Association:** Polyolithionite, zincian montmorillonite, niobium and rare-earth silicates.

**Distribution:** At the Dorozhny site, northern Khan-Bogdinskii granitic massif, Gobi, Mongolia.

**Name:** For Mongolia, the country where the mineral was discovered.

**Type Material:** A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.

**References:** (1) Vladykin, N.V., V.A. Drits, V.I. Kovalenko, M.D. Dorfman, V.S. Malov, and A.I. Gorshkov (1985) A new silicate of niobium, mongolite Ca<sub>4</sub>Nb<sub>6</sub>[Si<sub>5</sub>O<sub>20</sub>]O<sub>4</sub>(OH)<sub>10</sub>•nH<sub>2</sub>O. Zap. Vses. Mineral. Obshch., 114, 374–377 (in Russian). (2) (1986) Amer. Mineral., 71, 1279 (abs. ref. 1).