

**Crystal Data:** Monoclinic. *Point Group:* *m*. As thin crystals, platy on {001}, which appear needle-like in thin section, to 150  $\mu\text{m}$ .

**Physical Properties:** *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. Hardness = 6  
D(meas.) = n.d. D(calc.) = 3.216

**Optical Properties:** Transparent. *Color:* Nearly colorless in transmitted light. *Streak:* n.d.  
*Luster:* n.d.  
*Optical Class:* Biaxial (-). *n*(calc.) = 1.678 2*V*(meas.) = Small. *Pleochroism:* Weak.

**Cell Data:** *Space Group:* *Cm*. *a* = 17.2760(19) *b* = 35.957(5) *c* = 7.2560(8)  $\beta$  = 91.359(7)°  
*Z* = 2

**X-ray Powder Pattern:** Figure 7 (ref 1) provides a calculated diffractogram without a table of d-values.

Chemistry:	(1)	(2)
SiO <sub>2</sub>	38.65	38.54
Al <sub>2</sub> O <sub>3</sub>	0.23	
FeO	0.32	
MnO	51.8	53.62
MgO	1.20	
Cl	0.02	
-O = Cl <sub>2</sub>	0.00	
H <sub>2</sub> O	[7.91]	7.84
Total	100.12	100.00

(1) Navis valley, Tyrol, Austria; average of 5 electron microprobe analyses, H<sub>2</sub>O calculated from structure analysis, OH confirmed by Raman spectroscopy; corresponds to  $\text{Mn}_{31.58}\text{Fe}_{0.19}\text{Mg}_{1.29}\text{Si}_{27.82}\text{Al}_{0.20}\text{O}_{108}\text{H}_{37.97}$ . (2)  $\text{Mn}_{33}(\text{Si}_2\text{O}_5)_{14}(\text{OH})_{38}$ .

**Mineral Group:** Single-layer silicate.

**Occurrence:** Between serpentinite and chert, related to a late hydration stage after blueschist-facies metamorphism of former Mn-rich marine sediments.

**Association:** Rhodochrosite, friedelite, tephroite, spessartine, calcite, apatite, barite.

**Distribution:** Near Staffelsee (Geier), Navis valley, 20 km southeast of Innsbruck, Tyrol, Austria.

**Name:** For *Innsbruck*, Austria, a city near where the first specimens were collected.

**Type Material:** Museum of Natural History, Vienna, Austria (N 9580).

**References:** (1) Krüger, H., P. Tropper, U. Haefeker, R. Kaindl, M. Tribus, V. Kahlenberg, C. Wikete, M.R. Fuchs, and V. Olieric (2014) Innsbruckite,  $\text{Mn}_{33}(\text{Si}_2\text{O}_5)_{14}(\text{OH})_{38}$  - a new mineral from the Tyrol, Austria. *Mineral. Mag.*, 78(7), 1613-1627. (2) (2015) *Amer. Mineral.*, 100, 2009 (abs. ref. 1).