

Laurentianite**[NbO(H₂O)]₃(Si₂O₇)₂[Na(H₂O)₂]₃**

Crystal Data: Hexagonal. *Point Group:* 3. As acicular crystals elongate along [0001], to 0.15 mm, in randomly oriented groupings ('nests').

Physical Properties: *Cleavage:* None. *Fracture:* Splintery. *Tenacity:* Brittle. *Hardness* = n.d. D(meas.) = n.d. D(calc.) = 2.464

Optical Properties: Translucent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous to satiny. *Optical Class:* Uniaxial (-). $\omega = 1.612(2)$ $\varepsilon = 1.604(2)$

Cell Data: *Space Group:* P3. $a = 9.937(1)$ $c = 7.004(1)$ $Z = 1$

X-ray Powder Pattern: Poudrette quarry, Mont Saint-Hilaire, Quebec, Canada. 8.608 (100), 3.260 (31), 4.312 (25), 3.675 (25), 2.870 (20), 7.005 (19), 1.836 (14)

Chemistry:	(1)	(2)
Na ₂ O	8.88	10.40
K ₂ O	0.26	
CaO	0.22	
TiO ₂	0.58	
Nb ₂ O ₅	43.64	44.59
SiO ₂	26.87	26.88
H ₂ O	[17.93]	18.13
Total	98.38	100.00

(1) Poudrette quarry, Mont Saint-Hilaire, Quebec, Canada; average of 12 electron microprobe analyses, H₂O inferred from Raman spectroscopy and crystal structure analysis; corresponding to (Nb_{0.99}Ti_{0.01})_{Σ=1.00}O(H₂O)]₃(Si_{2.00}O₇)₂[(Na_{0.86}□_{0.10}K_{0.02}Ca_{0.01})_{Σ=0.99}(H₂O)₂]₃.

(2) [NbO(H₂O)]₃(Si₂O₇)₂[Na(H₂O)₂]₃.

Occurrence: From a highly oxidized waste-rock pile of siderite-dominant pods attributed to altered sodalite syenite. The mineral is likely a late-stage alteration product.

Association: Quartz, pyrite, franconite, rutile, lepidochrochite.

Distribution: At the Poudrette quarry, Mont Saint-Hilaire, Montérégie (formerly Rouville County), Quebec, Canada.

Name: For Laurentian University, Sudbury, Ontario, Canada, where the research characterizing this mineral as a new species was conducted.

Type Material: Royal Ontario Museum, Toronto, Canada (M55369).

References: (1) Haring, M.M.M., A.M. McDonald, M.A. Cooper, and G.A. Poirier (2012) Laurentianite, [NbO(H₂O)]₃(Si₂O₇)₂[Na(H₂O)₂]₃, a new mineral from Mont Saint-Hilaire, Quebec: description, crystal-structure determination and paragenesis. *Can. Mineral.*, 50, 1265-1280. (2) (2014) *Amer. Mineral.*, 99, 1516 (abs. ref. 1).