

**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . Crystals are acicular and elongated along [001] to 0.5 mm, and exhibiting dominant {100} with minor {010} and {001}; also as nest-like aggregates. Weak pale green to pale yellow fluorescence under medium-wave radiation.

**Physical Properties:** *Cleavage:* None. *Fracture:* Uneven. *Tenacity:* n.d. *Hardness:* = n.d. *D(meas.):* = n.d. *D(calc.):* = 3.106

**Optical Properties:** Transparent to translucent. *Color:* Colorless to pale pink. *Streak:* White. *Luster:* Vitreous.

*Optical Class:* Biaxial (n.d.). Positive elongation.  $n = 1.636(2)$  to  $1.656(2)$  *Pleochroism:* None.

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 6.837(1)$   $b = 7.575(2)$   $c = 8.841(2)$   $\alpha = 99.91(3)^\circ$   
 $\beta = 102.19^\circ$   $\gamma = 102.78(3)^\circ$   $Z = 2$

**X-ray Powder Pattern:** Poudrette quarry, Mont Saint-Hilaire, Québec, Canada.  
8.454 (100), 3.331 (83), 2.823 (80), 2.859 (52), 7.234 (39), 3.081 (38), 2.169 (25)

Chemistry:	(1)	(2)
Na <sub>2</sub> O	7.51	7.63
CaO	0.17	
MnO	31.02	34.95
FeO	0.86	
SiO <sub>2</sub>	46.34	44.40
S	0.39	
B <sub>2</sub> O <sub>3</sub>	[8.73]	8.58
H <sub>2</sub> O	[4.52]	4.44
Total	99.53	100.00

(1) Poudrette quarry, Mont Saint-Hilaire, Québec, Canada; average of 14 electron microprobe analyses, B and H<sub>2</sub>O calculated and their presence confirmed by crystal structure refinement and Raman spectroscopy; corresponding to Na<sub>0.97</sub>(Mn<sub>1.75</sub>Fe<sub>0.05</sub>Ca<sub>0.01</sub>)<sub>Σ=1.81</sub>(Si<sub>3.07</sub>S<sub>0.02</sub>)<sub>Σ=3.09</sub>BO<sub>9</sub>(OH)<sub>2</sub>.

(2) NaMn<sub>2</sub>[Si<sub>3</sub>BO<sub>9</sub>](OH)<sub>2</sub>.

**Occurrence:** Precipitated in vugs in altered sodalite syenite by late-stage aqueous fluids, presumably highly alkaline due to the presence of natrite.

**Association:** Microcline, analcime, nepheline, aegirine, pyrrhotite, sodalite, eudialyte-group minerals, natron, catapleiite.

**Distribution:** From the Poudrette quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu, Montérégie (formerly Rouville County), Québec, Canada.

**Name:** Honors Anthony Hosford Steede (b. 1940) in recognition of his contributions to the understanding of the mineralogy of Mont Saint-Hilaire.

**Type Material:** Department of Natural History, Royal Ontario Museum, Toronto, Ontario, Canada (M56489).

**References:** (1) Haring, M.M.M. and A.M. McDonald (2014) Steedeite, NaMn<sub>2</sub>[Si<sub>3</sub>BO<sub>9</sub>](OH)<sub>2</sub>: Characterization, crystal-structure determination, and origin. *Can. Mineral.*, 52, 47-60. (2) (2014) *Amer. Mineral.*, 99, 2442-2443 (abs. ref. 1).