Natrolemoynite

**Crystal Data:** Monoclinic. *Point Group: 2/m.* As compact radial aggregates and spheres to 4 mm, consisting of bladed to prismatic crystals to 2 mm, elongate along [001], showing {100}, {010}, and {001}.

**Physical Properties:** *Cleavage:* Perfect on {100} and {010}, poor on {001}. *Tenacity:* Brittle. *Fracture:* Uneven. *Hardness = 3*  
D*(meas.)* = 2.47(1)  
D*(calc.)* = 2.50  
*Nonfluorescent.*

**Optical Properties:** *Transmitting to translucent.* *Color:* Colorless to white, may have a slightly pink to red tinge, possibly from inclusions of lepidocrocite. *Streak:* White. *Luster:* Vitreous to subadamantine. *Optical Class:* Biaxial (-).  
α = 1.533(1)  
β = 1.559(1)  
γ = 1.567(1)  
2V*(meas.)* = 63(1)°  
2V*(calc.)* = 57(1)°  
*Dispersion:* Weak, r and v crossed. *Orientation:* X = b, Z ∧ a = 40° in obtuse β. *Nonpleochroic.*

**Cell Data:** *Space Group: C2/m.*  
a = 10.5150(2)  
b = 16.2534(4)  
c = 9.1029(3)  
β = 105.462(2)°  
*Z = 2.*

**X-ray Powder Pattern:** Poudrette quarry, Mont Saint-Hilaire, Rouville County, Quebec, Canada.  
8.132 (100), 5.975 (40), 3.564 (40), 3.974 (35), 3.490 (35), 8.832 (30), 3.693 (30)

**Chemistry:**

<table>
<thead>
<tr>
<th>Element</th>
<th>Formula</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na₂O</td>
<td>7.47</td>
<td></td>
</tr>
<tr>
<td>K₂O</td>
<td>1.29</td>
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</tr>
<tr>
<td>CaO</td>
<td>0.37</td>
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</tr>
<tr>
<td>MnO</td>
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<tr>
<td>Al₂O₃</td>
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<tr>
<td>SiO₂</td>
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<tr>
<td>TiO₂</td>
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<td>ZrO₂</td>
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<td>Nb₂O₅</td>
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<tr>
<td>H₂O</td>
<td>[14.72]</td>
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</tr>
</tbody>
</table>

Total: 101.88

(1) Poudrette quarry, Mont Saint-Hilaire, Rouville County, Quebec, Canada; average electron microprobe analysis supplemented by IR spectroscopy, H₂O calculated; corresponds to (Na₂.62K₀.30Ca₀.07Mn₀.02)Σ=3.05(Zr₁.96Nb₀.08Ti₀.05)Σ=2.09(Si₉.99Al₀.01)Σ=10O₂₅.79·9H₂O.

**Mineral Group:** Lemoynite group.

**Occurrence:** Late stage in pegmatite cutting nepheline syenite.

**Association:** Microcline, lemoynite, lepidocrocite, galena, sphalerite, calcite, pyrite (in altered pegmatite); biotite, microcline, albite, magnetite, chlorite, zircon (in unaltered pegmatite).

**Distribution:** At the Poudrette quarry, Mont Saint-Hilaire, Rouville County, Quebec, Canada.

**Name:** Alludes to the Na dominance (*natro*) and polymorphic relationship to lemoynite.

**Type:** Canadian Museum of Nature, Ottawa, Ontario, Canada (81534).