Lasalite

**Na₂Mg₂[V₁₀O₂₈]·20H₂O**

**Crystal Data:** Monoclinic.  *Point Group: 2/m.* Typically as crusts of rounded crystals; as blocky prismatic crystals, elongated on [010] and exhibiting {100}, {010}, {001}, {1 11}, and {111}, to 2 mm.

**Physical Properties:**  
*Cleavage:* None.  *Tenacity:* Very brittle.  *Hardness:* 1  
*D(meas.) = 2.38(2)  D(calc.) = 2.362* Crystals dehydrate to a yellow powder. Soluble in water.

**Optical Properties:**  
*Luster:* Adamantine.  
*Optical Class:* Biaxial (−).  
*α = 1.743(5)  β = 1.773(5)  γ = 1.780(5)  2V(meas.) = 43(1)°*  
*Dispersion:* *r > v,* strong.  
*Pleochroism:* *X* = light greenish yellow;  *Y* = light yellow;  *Z* = light brown.

**Cell Data:**  
*Space Group: C2/c.*  
*a = 23.9019(7)  b = 10.9993(3)  c = 17.0504(5)  
*β = 118.284(1)°  Z = 2*

**X-ray Powder Pattern:**  
Vanadium Queen Mine, Utah.  
9.72 (100), 6.67 (80), 7.42 (70), 9.09 (60), 8.19 (60), 2.882 (50), 2.706 (50)

**Chemistry:**  
(1)  
<table>
<thead>
<tr>
<th>Element</th>
<th>Formula</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na₂O</td>
<td>4.06</td>
<td></td>
</tr>
<tr>
<td>MgO</td>
<td>5.42</td>
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<tr>
<td>CaO</td>
<td>1.75</td>
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<tr>
<td>K₂O</td>
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<td>V₂O₅</td>
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<tr>
<td>SO₃</td>
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<tr>
<td>H₂O</td>
<td>23.88</td>
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</tr>
<tr>
<td>Total</td>
<td>100.00</td>
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</tr>
</tbody>
</table>

(1) Vanadium Queen Mine, Utah; average of 2 argon-plasma spectrometric analyses, H₂O by difference, corresponding to (Na₁.₈₄Ca₀.₄₄K₀.₁₄)Σ=2.₄₂Mg₁.₈₉(V₉.₅₅S₀.₄₅)Σ=10.₀₀O₂₈.₅₅·1₈.₆₁H₂O.

**Occurrence:**  
As efflorescences in oxidized portions of paleochannel uranium vanadium deposits of the Colorado Plateau type.

**Association:**  
Rossite, dickthomssenite, hewettite.

**Distribution:**  
Vanadium Queen Mine, La Sal district, and Firefly-Pigmay and Blue Cap mines, Utah, USA. Likely widespread in other similar deposits on the Colorado Plateau, e.g. Yellow Cat district, Grand County, Utah, USA.

**Name:**  
For the mining district that provided the first specimens.

**Type Material:**  

**References:**  