Löweite

\[
\text{Na}_{12}\text{Mg}_7(\text{SO}_4)_{13}\cdot15\text{H}_2\text{O}
\]

Crystal Data: Hexagonal. Point Group: 3 2/m. Anhedral granular.


Optical Class: Uniaxial (−). \(\omega = 1.490\) \(\epsilon = 1.471\)

Cell Data: Space Group: \(\text{R}3\). \(a = 18.866(2)\) \(c = 13.434(2)\) \(Z = 3\)

X-ray Powder Pattern: Synthetic.
10.37 (100), 4.294 (65), 4.046 (60), 2.458 (50), 3.277 (45), 2.698 (45), 3.175 (40)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\text{SO}_3)</td>
<td>52.53</td>
<td>52.97</td>
</tr>
<tr>
<td>(\text{MgO})</td>
<td>14.31</td>
<td>14.36</td>
</tr>
<tr>
<td>(\text{Na}_2\text{O})</td>
<td>18.58</td>
<td>18.92</td>
</tr>
<tr>
<td>(\text{H}_2\text{O})</td>
<td>14.80</td>
<td>13.75</td>
</tr>
<tr>
<td>Total</td>
<td>100.22</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Ischl, Austria. (2) \(\text{Na}_{12}\text{Mg}_7(\text{SO}_4)_{13}\cdot15\text{H}_2\text{O}\).

Occurrence: An uncommon mineral in marine salt deposits; in efflorescences and crusts in saline playa deposits; a volcanic sublimation product.

Association: Anhydrite, gypsum, vanthoffite, blödite, langbeinite, aphthitalite, epsomite, pentahydrite, hexahydrite, kieserite, mirabilite, starkeyite, thénardite.

Distribution: From Ischl, Hallstatt, and Hall, Austria. In Germany, in the Stassfurt-Aschersleben-Bernburg potash district, Saxony-Anhalt; at Merkers, Thuringia; from Hattorf, near Philippsthal, and at Neuhof-Ellers, Hesse. In playas of the La Mancha region, Spain. Found on volcanoes on the Kamchatka Peninsula, Russia. In Turkey, from the Great Konya Basin, near Çakmak, Konya Province. In the “Q” Basin [Jianghan Plain] potash deposits, Hubei Province, China. In the USA, in the Carlsbad potash district, Eddy Co., New Mexico; from northwest of Grand Junction, Mesa Co., Colorado.

Name: To honor Alexander Löwe (1808–1895), Austrian chemist, Chief Assayer at the Mint, Vienna, Austria.

Type Material: Natural History Museum, Vienna, Austria, A.x.583–A.x.585.


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