Morenosite NiSO$_4$•7H$_2$O

Crystal Data: Orthorhombic. Point Group: 222. As indistinct crystals and fibers, in stalactites and efflorescent crusts.


X-ray Powder Pattern: Synthetic. (ICDD 1-403). 4.20 (100), 5.3 (60), 2.85 (25), 3.75 (16), 3.45 (16), 2.65 (16), 4.45 (12)

Chemistry:

<table>
<thead>
<tr>
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<th>(1)</th>
<th>(2)</th>
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</thead>
<tbody>
<tr>
<td>SO$_3$</td>
<td>28.54</td>
<td>28.51</td>
</tr>
<tr>
<td>As$_2$O$_5$</td>
<td>0.27</td>
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<tr>
<td>NiO</td>
<td>26.76</td>
<td>26.59</td>
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<tr>
<td>H$_2$O</td>
<td>44.43</td>
<td>44.90</td>
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Total 100.00 100.00

(1) Richelsdorf, Germany. (2) NiSO$_4$•7H$_2$O.

Polymorphism & Series: Forms a series with epsomite.

Occurrence: An uncommon secondary mineral in the oxidized zone of nickel-bearing hydrothermal mineral deposits, formed from H$_2$O solution below 31.5 °C.

Association: Retgersite, nickelhexahydrite, annabergite, millerite.

Distribution: Not all listed localities are certainly of this species. From Cabo Ortegal, Galicia, Spain. At Jáchymov (Joachimsthal), Czech Republic. From near Plattelen, and on Mt. Pollux, both near Zermatt, Valais, Switzerland. At Sasso Moro, Val Malenco, Lombardy, Italy. In Germany, from Richelsdorf, Hesse-Nassau; in the Rammelsberg mine, near Goslar, Harz Mountains; at Ramsbeck, Sauerland, and elsewhere. In the St. Patrick’s copper mine, Avoca, Co. Wicklow, Ireland. In Australia, from Kambalda, 56 km south of Kalgoorlie, and at the Mount Keith nickel deposit, 400 km north-northwest of Kalgoorlie, Western Australia. At Minasragra, 46 km from Cerro de Pasco, Peru. From a number of mines in the Sudbury district, Ontario, Canada. In the USA, from the Gap Nickel mine, Lancaster Co., Pennsylvania; in California, at the Coyote Mountain nickel prospect, Imperial Co., at the Friday Ni–Co–Cu mine, San Diego Co., and in the Island Mountain copper mine, Trinity Co.; from the Lovelock and Nickel mines, Table Mountain district, Churchill Co., Nevada.

Name: To honor Señor Antonio Moreno Ruiz (1796–1852), Spanish pharmacist and chemist, Academy of Natural Sciences, Madrid, Spain.


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