Meixnerite  
\( \text{Mg}_6\text{Al}_2(\text{OH})_{18}\cdot4\text{H}_2\text{O} \)

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Crystal Data:  Hexagonal.  \textit{Point Group}: \( \overline{3}2/m \).  Tabular crystals, to 1 mm.

Physical Properties:  \textit{Cleavage}: \( \{0001\} \), perfect.  \textit{Hardness} = \( \sim 2 \)  \textit{D(meas.)} = 1.9(1)  \textit{D(calc.)} = 1.95

Optical Properties:  Transparent.  \textit{Color}: Colorless.  \textit{Optical Class}: Uniaxial (−).  \( \omega = 1.517 \)  \( \epsilon = \text{n.d.} \)

Cell Data:  \textit{Space Group}: \( \text{R}3m \).  \( a = 3.0463(15) \)  \( c = 22.93(2) \)  \( Z = 3/8 \)

X-ray Powder Pattern:  Ybbs-Persenberg, Austria; d’s calculated.  (ICDD 34-478).  
1.94 (100), 1.52 (75), 3.82 (72), 2.287 (70), 2.57 (64), 1.494 (57), 7.64 (55)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{Al}_2\text{O}_3</td>
<td>15.0</td>
<td>17.64</td>
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<tr>
<td>\text{Fe}_2\text{O}_3</td>
<td>0.55</td>
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</tr>
<tr>
<td>\text{MgO}</td>
<td>36.5</td>
<td>41.84</td>
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<tr>
<td>\text{H}_2\text{O}</td>
<td>[47.95]</td>
<td>40.52</td>
</tr>
<tr>
<td>\text{Total}</td>
<td>[100.00]</td>
<td>100.00</td>
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</tbody>
</table>

(1) Ybbs-Persenberg, Austria; by electron microprobe, total Fe as \( \text{Fe}_2\text{O}_3 \), \( \text{H}_2\text{O} \) by difference.  
(2) \( \text{Mg}_6\text{Al}_2(\text{OH})_{18}\cdot4\text{H}_2\text{O} \).

Occurrence:  A secondary mineral in serpentinite.

Association:  Talc, aragonite.

Distribution:  From Ybbs-Persenberg, Ispertal, Austria.

Name:  To honor Professor Heinrich Hermann Meixner (1908–1981), Austrian mineralogist, University of Salzburg, Salzburg, Austria.

Type Material:  University of Salzburg, Salzburg, Austria; University of Göttingen, Göttingen, Germany; The Natural History Museum, London, England, 1980,687; Harvard University, Cambridge, Massachusetts, USA, 117008.