Ni(OH)₂  Theophrastite

**Crystal Data:** Hexagonal. *Point Group:* 3 2/m. In minute crystals, platy or finely parallel fibrous, in botryoidal crusts, to 0.5 cm; may be interstratified with other layer-structure minerals.

**Physical Properties:** *Cleavage:* {0001}, perfect. *Fracture:* Conchoidal. *Hardness* = 3.5
*D*(meas.) = 4.00  *D*(calc.) = 3.95


*Optical Class:* Uniaxial (+); birefringence very weak. *Pleochroism:* Weak. ω = 1.759–1.760
ε = 1.759–1.760

**Cell Data:** *Space Group:* P3m1 (synthetic). a = 3.131  c = 4.608  Z = 1

**X-ray Powder Pattern:** Vermion district, Greece.
2.335 (100), 4.61 (95), 1.755 (50), 2.708 (30), 1.563 (25), 1.480 (18), 1.336 (10)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
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</thead>
<tbody>
<tr>
<td>NiO</td>
<td>80.21</td>
<td>80.57</td>
</tr>
<tr>
<td>H₂O</td>
<td>19.30</td>
<td>19.43</td>
</tr>
<tr>
<td>Total</td>
<td>99.51</td>
<td>100.00</td>
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</tbody>
</table>

(1) Vermion district, Greece; by electron microprobe, H₂O by the Penfield method. (2) Ni(OH)₂.

**Occurrence:** As coatings in chromitite in lenses in serpentinites (Vermion district, Greece); on chromitite (Hagdale quarry, Scotland).

**Association:** Magnetite, chromite, millerite, vesuvianite, chlorite, andradite–grossular, nickeleriferous serpentine minerals, calcite (Vermion district, Greece); zaratite, reevesite, honessite, hydrohonessite (Hagdale quarry, Scotland).

**Distribution:** From the Vermion district, 50 km west of Thessalonike, Macedonia, Greece. In the Hagdale quarry, Unst, Shetland Islands, Scotland. At the Lord Brassey mine, Heazlewood, Tasmania, Australia.

**Name:** For Theophrastus, (ca. 371 BC–ca. 287 BC), the first Greek mineralogist.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, 148460.