$Ni(OH)_2$ Theophrastite

Crystal Data: Hexagonal. Point Group: $\overline{3}$ 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 Properties: Translucent. Color: Emerald-green to blue-green; pale green in thin section. Streak: Pale green. Luster: Vitreous.

Optical Class: Uniaxial (+); birefringence very weak. Pleochroism: Weak. $\omega = 1.759-1.760$ $\epsilon = 1.759-1.760$

Cell Data: Space Group: $P\overline{3}m1$ (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:

$$\begin{array}{cccc} & & & (1) & & (2) \\ \text{NiO} & 80.21 & 80.57 \\ \text{H}_2\text{O} & 19.30 & 19.43 \\ \hline \text{Total} & 99.51 & 100.00 \\ \end{array}$$

(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, nickeliferous 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.

References: (1) Marcopoulos, T. and M. Economou (1981) Theophrastite, Ni(OH)₂, a new mineral from northern Greece. Amer. Mineral., 66, 1020–1021. (2) Livingstone, A. and D. Bish (1982) On the new mineral theophrastite, a nickel hydroxide, from Unst, Shetland, Scotland. Mineral. Mag., 46, 1–5.