Haidingerite $Ca(AsO_3OH)\cdot H_2O$

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As short prismatic to equant crystals, to 1 mm; typically as botyroidal or fibrous coatings, scaly. *Twinning:* Rare on {110}.

Physical Properties: *Cleavage:* Perfect on {010}. *Tenacity:* Sectile, thin laminae slightly flexible. Hardness = 2–2.5 D(meas.) = 2.85–2.96 D(calc.) = 2.96–2.97

Optical Properties: Transparent to translucent. *Color:* Colorless to white. *Luster:* Vitreous; pearly on cleavages.
Optical Class: Biaxial (+). *Orientation:* $X = b$; $Y = a$; $Z = c$. *Dispersion:* $r > v$, weak.
$\alpha = 1.590(3)$ $\beta = 1.602(3)$ $\gamma = 1.638(3)$ 2V(meas.) = 58(3)°

Cell Data: *Space Group: Pcnb.* $a = 6.904$–6.935 $b = 16.150$–16.161 $c = 7.935$–7.940
Z = 8

X-ray Powder Pattern: "Baden", Germany.
5.217 (FFFF), 2.981 (FFF), 8.059 (FF), 5.254 (FF), 3.843 (FF), 3.185 (FF), 3.151 (FF)

Chemistry:

	(1)	(2)
As_2O_5	57.52	58.03
CaO	28.39	28.32
H_2O	14.32	13.65
Total	100.23	100.00

(1) Jáchymov, Czech Republic. (2) $Ca(AsO_3OH)\cdot H_2O$.

Occurrence: Formed by dehydration of pharmacolite (Getchell mine, Nevada, USA).

Association: Pharmacolite, pitticite, weilite.

Distribution: At Jáchymov (Joachimsthal), Czech Republic. In Germany, from the Anton mine, Heubachtal, near Schiltach, and near Wittichen, Black Forest; at Richelsdorf, Hesse. At the Gabe-Gottes mine, Rauenthal, near Sainte-Marie-aux-Mines, Haut-Rhin, France. From the Ruben mine, Kohlendorf, Poland. At the Khaydarkan deposit, Fergana Valley, Alai Range, Kyrgyzstan. In the White Caps mine, Manhattan district, Nye Co., and the Getchell mine, Potosi district, Humboldt Co., Nevada; from Sterling Hill, Ogdensburg, Sussex Co., New Jersey, USA.

Name: Honors Wilhelm Karl von Haidinger (1795–1871), Austrian mineralogist.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 708–709. (2) Cassien, H., P. Herpin, and F. Permingeat (1966) Structure cristalline de la haidingérite. Bull. Minéral., 89, 18–22 (in French). (3) Ferraris, G., D.W. Jones, and J. Yerkess (1972) A neutron and X-ray refinement of the crystal structure of $CaHAsO_4\cdot H_2O$ (haidingerite). Acta Cryst., 28, 209–214.