

Crystal Data: Monoclinic, pseudo-orthorhombic. *Point Group:* $2/m$. As delicate needles, to several mm long.

Physical Properties: Hardness = n.d. $D(\text{meas.}) = 1.43$ $D(\text{calc.}) = 1.467$

Optical Properties: Semitransparent. *Color:* Yellow, yellowish green.

Optical Class: [Biaxial (+).] *Orientation:* $X \parallel$ elongation. $\alpha = \sim 1.75$ $\beta = \sim 1.75$ $\gamma = \sim 2.0$
 $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* $P2_1/a$. $a = 15.81$ $b = 3.967$ $c = 7.876$ $\beta = 102.67^\circ$ $Z = 2$

X-ray Powder Pattern: Synthetic. (ICDD 28-2002).

3.52 (100), 7.69 (95), 3.36 (80), 6.16 (50), 3.84 (35), 3.14 (14), 3.79 (10)

Chemistry: (1) Modern identification would depend on coincidence of X-ray powder diffraction pattern with that of synthetic material (anthraquinone).

Occurrence: Very rare, in crusts around the surface vents of a burning coal deposit.

Association: Sal ammoniac, sulfur.

Distribution: On Mt. Pyramide, Spitsbergen, Norway.

Name: Honors Adolf Hoel (1879–1964), leader of the discovery expedition to Spitsbergen during which the mineral was found.

Type Material: Mineralogical-Geological Museum, University of Oslo, Oslo, Norway, 21981.

References: (1) Oftedal, I. (1922) Minerals from the burning coal seam at Mt. Pyramide, Spitsbergen. *Resultater av de Norske Statsunderstøttede Spitsbergenekspeditioner*, 1(3), 9–14.
(2) (1923) *Mineral. Abs.*, 2, 10 (abs. ref. 1).