Wülfingite $Zn(OH)_2$

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As very rare crystals, to 200 μm, in starlike clusters; in fine-grained incrustations.

Physical Properties: *Fracture:* Conchoidal. Hardness = 3 D(meas.) = 3.05(2) D(calc.) = 3.06

Optical Properties: Transparent. *Color:* Colorless to whitish; colorless in transmitted light. *Streak:* White. *Luster:* Waxy.
Optical Class: Biaxial (–). *Dispersion:* $r \gg v$, extreme. $\alpha = 1.5722(3)$ $\beta = 1.5781(3)$ $\gamma = 1.5801(1)$ 2V(meas.) = 62.8(2)° 2V(calc.) = 60°

Cell Data: *Space Group:* $P2_12_12_1$. $a = 8.490(1)$ $b = 5.162(1)$ $c = 4.917(1)$ Z = 4

X-ray Powder Pattern: Richelsdorf, Germany.
4.407 (100), 3.280 (100), 4.250 (80), 3.212 (80), 2.727 (80), 2.284 (80), 2.215 (80)

Chemistry:

	(1)	(2)
ZnO	81.5	81.88
H_2O	19.0	18.12
Total	100.5	100.00

(1) Richelsdorf, Germany; by electron microprobe, average of several determinations, H_2O by TGA. (2) $Zn(OH)_2$.

Polymorphism & Series: Trimorphous with ashoverite and sweetite.

Occurrence: A rare secondary mineral formed by weathering of zinc-bearing slag (Richelsdorf, Germany).

Association: Simonkolleite, hydrocerussite, diaboleite, zincite, hydrozincite, zinc (Richelsdorf, Germany); ashoverite, fluorite (near Ashover, England).

Distribution: On slag heaps from the foundry at Richelsdorf, Hesse, Germany. In a limestone quarry 200–300 m northwest of Milltown, near Ashover, Derbyshire, England.

Name: Honors Dr. Ernst Anton Wülfing (1860–1930), Professor of Mineralogy and Petrography, Heidelberg University, Heidelberg, Germany.

Type Material: Göttingen University, Göttingen; Heidelberg University, Heidelberg, Germany.

References: (1) Schmetzer, K., G. Schnorrer-Köhler, and O. Medenbach (1985) Wülfingite, ϵ–$Zn(OH)_2$, and simonkolleite, $Zn_5(OH)_8Cl_2 \cdot H_2O$, two new minerals from Richelsdorf, Hesse, F.R.G. Neues Jahrb. Mineral., Monatsh., 145–154. (2) (1988) Amer. Mineral., 73, 196–197 (abs. ref. 1). (3) Schnering, H.G. (1964) Zur Konstitution des ϵ–$Zn(OH)_2$. Zeits. Anorg. Allgem. Chem., 330, 170–178 (in German with English abs.).