

**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . As very rare crystals, to 200  $\mu\text{m}$ , 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.  $\alpha = 1.5722(3)$   $\beta = 1.5781(3)$   
 $\gamma = 1.5801(1)$   $2V(\text{meas.}) = 62.8(2)^\circ$   $2V(\text{calc.}) = 60^\circ$

**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 <sub>2</sub> O	19.0	18.12
Total	100.5	100.00

(1) Richelsdorf, Germany; by electron microprobe, average of several determinations, H<sub>2</sub>O by TGA. (2) Zn(OH)<sub>2</sub>.

**Polymorphism & Series:** Trimorphous with ashoverite and sweetite.

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

**Association:** Simonkollite, hydrocerussite, diaboileite, 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,  $\epsilon$ -Zn(OH)<sub>2</sub>, and simonkollite, Zn<sub>5</sub>(OH)<sub>8</sub>Cl<sub>2</sub>•H<sub>2</sub>O, 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  $\epsilon$ -Zn(OH)<sub>2</sub>. Zeits. Anorg. Allgem. Chem., 330, 170–178 (in German with English abs.).