

Parascholzite

CaZn₂(PO₄)₂•2H₂O

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Crystal Data: Monoclinic. *Point Group:* $2/m$ or m . Crystals are flattened on {100}, and elongated along [001], to 2 cm; commonly twinned and intergrown with scholzite. *Twining:* By reflection on {100}, also the composition plane; may be simple, but typically polysynthetic.

Physical Properties: *Cleavage:* The composition plane of polysynthetic twins is a parting surface. Hardness = ~ 4 D(meas.) = 3.12(3) D(calc.) = 3.10

Optical Properties: Semitransparent. *Color:* White to colorless. *Streak:* White. *Luster:* Vitreous.

Optical Class: Biaxial (+). *Orientation:* $X = b$; $Z \wedge c = 13(1)^\circ$. *Dispersion:* $r > v$. $\alpha = 1.587(2)$ $\beta = 1.588(2)$ $\gamma = 1.603(2)$ $2V(\text{meas.}) = 25(2)^\circ$ $2V(\text{calc.}) = 29^\circ$

Cell Data: *Space Group:* $C2/c$ or Cc . $a = 17.864(5)$ $b = 7.422(2)$ $c = 6.674(2)$ $\beta = 106^\circ 27(1)'$ $Z = 4$

X-ray Powder Pattern: Hagendorf, Germany.

8.55 (100), 2.804 (80), 4.158 (50), 3.406 (40), 2.779 (40), 4.53 (30), 2.586 (30)

Chemistry:

	(1)	(2)
P ₂ O ₅	35.7	35.77
FeO	0.5	
MnO	1.4	
ZnO	40.1	41.02
CaO	12.8	14.13
H ₂ O	8.8	9.08
Total	99.3	100.00

(1) Hagendorf, Germany; by electron microprobe, H₂O by the Penfield method; corresponds to (Ca_{0.92}Mn_{0.08})_{Σ=1.00}(Zn_{1.98}Fe_{0.03})_{Σ=2.01}(PO₄)_{2.02}•1.97H₂O. (2) CaZn₂(PO₄)₂•2H₂O.

Polymorphism & Series: Dimorphous with scholzite.

Occurrence: A secondary mineral produced by alteration of primary phosphates in complex granite pegmatites.

Association: Scholzite, vivianite, phosphophyllite, strengite (Hagendorf, Germany).

Distribution: Large crystals from Hagendorf, Bavaria, Germany. At Kabwe (Broken Hill), Zambia. On Reaphook Hill, near Blinman, Flinders Ranges, South Australia. In the Tip Top mine, 8.5 km southwest of Custer, Custer Co., South Dakota, USA.

Name: From the Greek *para*, for *near*, and its dimorphous relation to *scholzite*.

Type Material: National Museum of Natural History, Washington, D.C., USA, B14318, B14345.

References: (1) Sturman, B.D., R.C. Rouse, and P.J. Dunn (1981) Parascholzite, a new mineral from Hagendorf, Bavaria, and its relationship to scholzite. Amer. Mineral., 66, 843–851.