

## Feinglosite

## $\text{Pb}_2(\text{Zn}, \text{Fe}^{2+})(\text{AsO}_4, \text{SO}_4)_2(\text{OH}, \text{H}_2\text{O})$

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**Crystal Data:** Monoclinic. *Point Group:*  $2/m$  or  $2$ . As crystals, to 10  $\mu\text{m}$ , composed of multiple individuals, in radiating botryoidal aggregates.

**Physical Properties:** *Tenacity:* Sectile. Hardness = 4–5 VHN = 253–285, 263 average (100 g load). D(meas.) = n.d. D(calc.) = [6.56]

**Optical Properties:** Semitransparent. *Color:* Pale olive-green; in reflected light, very pale brownish gray. *Streak:* White. *Luster:* Adamantine.

*Optical Class:* Biaxial.  $\alpha = \text{n.d.}$   $\beta = \text{n.d.}$   $\gamma = \text{n.d.}$   $2V(\text{meas.}) = \text{n.d.}$  *Birefractance:* Very weak.

$R_1$ – $R_2$ : (400) 12.2–12.3, (420) 11.8–12.0, (440) 11.6–11.8, (460) 11.4–11.6, (480) 11.2–11.4, (500) 11.1–11.2, (520) 10.9–11.1, (540) 10.8–11.0, (560) 10.8–10.9, (580) 10.7–10.8, (600) 10.7–10.8, (620) 10.7–10.8, (640) 10.7–10.8, (660) 10.7–10.8, (680) 10.7–10.8, (700) 10.6–10.7

**Cell Data:** *Space Group:*  $P2_1/m$  or  $P2_1$ .  $a = 8.973(6)$   $b = 5.955(3)$   $c = 7.766(6)$   
 $\beta = 112.20(6)^\circ$   $Z = 2$

**X-ray Powder Pattern:** Tsumeb, Namibia.

3.246 (100), 2.988 (60), 2.769 (60), 4.85 (50), 2.107 (50), 3.659 (30), 2.293 (30)

### Chemistry:

	(1)
$\text{SO}_3$	5.3
$\text{As}_2\text{O}_5$	22.1
FeO	1.8
ZnO	7.3
PbO	61.4
$\text{H}_2\text{O}$	[2.1]
Total	[100.0]

(1) Tsumeb, Namibia; by electron microprobe, average of seven analyses, total Fe as FeO,  $\text{H}_2\text{O}$  by difference; with  $(\text{OH})^{1-}$  supplied for charge balance, corresponds to  $\text{Pb}_{2.09}(\text{Zn}_{0.68}\text{Fe}_{0.18}^{2+})_{\Sigma=0.86}[(\text{AsO}_4)_{1.46}(\text{SO}_4)_{0.50}]_{\Sigma=1.96}(\text{OH})_{0.52} \cdot 0.62\text{H}_2\text{O}$ .

**Mineral Group:** Brackebuschite group.

**Occurrence:** A very rare secondary mineral, in a cavity in chalcocite, from an oxidized zone in a dolostone-hosted hydrothermal polymetallic ore deposit.

**Association:** Goethite, anglesite, wulfenite, chalcocite, arsenodescloizite, gypsum.

**Distribution:** From Tsumeb, Namibia.

**Name:** To honor Dr. Mark N. Feinglos (1948– ), American medical researcher and mineral collector specializing in Tsumeb minerals, Durham, North Carolina, USA, who first noted the mineral.

**Type Material:** The Natural History Museum, London, England, 1984,943; Harvard University, Cambridge, Massachusetts, USA, 95.66.

**References:** (1) Clark, A.M., A.J. Criddle, A.C. Roberts, M. Bonardi, and E.A. Moffatt (1997) Feinglosite, a new mineral related to brackebuschite, from Tsumeb, Namibia. *Mineral. Mag.*, 61, 285–289. (2) (1998) *Amer. Mineral.*, 83, 653–654 (abs. ref. 1). (3) (1998) *Amer. Mineral.*, 83, 1121 (erratum in ref. 2).