

# Eugenite

# Ag<sub>11</sub>Hg<sub>2</sub>

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**Crystal Data:** Cubic. *Point Group:*  $\bar{4}3m$ . Granular, up to 4 mm.

**Physical Properties:** Hardness = n.d. VHN = 85–106, 92 average (15 g load).  
D(meas.) = 10.75(3) D(calc.) = 10.45

**Optical Properties:** Opaque. *Color:* [Black]; white with faint yellow tinge in reflected light.  
*Luster:* Metallic.

*Optical Class:* Isotropic.

R: (546) 80.1, (589) 82.7, (656) 85.6

**Cell Data:** *Space Group:*  $I4\bar{3}m$ .  $a = 10.02(2)$   $Z = 4$

**X-ray Powder Pattern:** Lubin mine, Poland.

2.37 (10), 2.10 (8), 0.950 (8), 0.925 (8), 1.457 (7), 1.240 (7), 1.193 (6)

**Chemistry:**

	(1)	(2)
Hg	25.50	25.27
Ag	74.00	74.73
S	0.15	
Total	99.70	100.00

(1) Lubin mine, Poland; by electron microprobe, corresponds to Ag<sub>11.00</sub>Hg<sub>2.10</sub>. (2) Ag<sub>11</sub>Hg<sub>2</sub>.

**Occurrence:** In low-grade copper sulfide ore in black shale and carbonate rocks (Lubin mine, Poland); in cuprite (Bisbee, Arizona, USA).

**Association:** Chalcocite, covellite, tennantite, hematite, calcite, ankerite, gypsum (Lubin mine, Poland).

**Distribution:** In Poland, from the Lubin [TL] and Sieroszowice copper mines, near Legnica, Zechstein copper district, Lower Silesia, Poland. In the USA, in the Southwest mine, Bisbee, Cochise Co., Arizona.

**Name:** To honor Professor Eugen Friedrich Stumpfl (1935– ), Austrian mineralogist, Mining University, Leoben, Austria, for his studies of noble metal compounds.

**Type Material:** Institute of Geology and Mineral Deposit, Cracow, Poland.

**References:** (1) Kucha, H. (1986) Eugenite, Ag<sub>11</sub>Hg<sub>2</sub> – a new mineral from Zechstein copper deposits in Poland. *Mineral. Polonica*, 17(2), 3–10. (2) Piestrzyński, A. and W. Tylka (1992) Silver amalgams from the Sieroszowice copper mine, Lubin-Sieroszowice district, SW Poland. *Mineral. Polonica*, 23(1), 17–24. (3) (1995) *Amer. Mineral.*, 80, 845–846 (abs. refs. 1–2).