

**Crystal Data:** Orthorhombic. *Point Group:*  $2/m\ 2/m\ 2/m$ . As fan-shaped aggregates of acicular crystals, to 1.5 cm long, and granular.

**Physical Properties:** *Cleavage:* Distinct on {010}, poor on {0kl}. Hardness = 2.5  
VHN = Markedly anisotropic from 87 (transverse) to 191 (longitudinal) (50 g load).  
D(meas.) = 6.85 D(calc.) = 6.88

**Optical Properties:** Opaque. *Color:* Tin-white; in reflected light, whitish gray, bluish gray in oil. *Luster:* Metallic. *Pleochroism:* Moderate to distinct. *Anisotropism:* Distinct in air, strong in oil.

R<sub>1</sub>–R<sub>2</sub>: (480) 45.2–51.2, (546) 42.9–47.2, (589) 42.0–46.1, (644) 40.2–45.0

**Cell Data:** *Space Group:*  $Pnma$ .  $a = 54.76(4)$   $b = 4.030(3)$   $c = 22.75(3)$   $Z = 4$

**X-ray Powder Pattern:** Bärenbad, Austria.

3.414 (100), 2.014 (80), 2.893 (70), 3.010 (60), 2.141 (50), 2.037 (45), 3.488 (40)

**Chemistry:**

	(1)
Pb	34.3
Cu	0.9
Fe	0.6
Ag	0.3
Bi	45.8
Sb	1.5
S	17.3
Total	100.7

(1) Bärenbad, Austria; by electron microprobe, average of 16 analyses of two crystals; corresponds to Pb<sub>8.61</sub>(Cu<sub>0.73</sub>Fe<sub>0.57</sub>Ag<sub>0.16</sub>)<sub>Σ=9.50</sub>(Bi<sub>11.36</sub>Sb<sub>0.62</sub>)<sub>Σ=11.98</sub>S<sub>28.00</sub>.

**Occurrence:** In gold-bearing sulfide ores of copper located in quartz veins cutting amphibolite facies metamorphosed mafic rocks (Bärenbad, Austria).

**Association:** Pyrite, arsenopyrite, chalcopyrite, pyrrhotite, sphalerite, stannite, bismuth, gold, quartz (Bärenbad, Austria).

**Distribution:** From Bärenbad, west of Hollersbachtal, Salzburg, Austria. At Gordon Camp and the Abril mine, Middle Pass district, Cochise Co., Arizona, USA.

**Name:** To honor Professor Eberhard Clar (1904– ), Austrian mineralogist, University of Vienna, Vienna, Austria.

**Type Material:** Institute for Geosciences (Mineralogy), University of Salzburg, Salzburg, Austria; Mineralogical-Crystallographical Institute, University of Göttingen, Göttingen, Germany; The Natural History Museum, London, England, 1982,573; Royal Ontario Museum, Toronto, Canada; National Museum of Natural History, Washington, D.C., USA, 150482.

**References:** (1) Paar, W.H., T.T. Chen, V. Kupcik, and K. Hanke (1984) Eclarite, (Cu, Fe)Pb<sub>9</sub>Bi<sub>12</sub>S<sub>28</sub>, ein neues Sulfosalz von Bärenbad, Hollersbachtal, Salzburg, Österreich. *Tschermaks Mineral. Petrog. Mitt.*, 32, 103–110 (in German with English abs.). (2) (1985) *Amer. Mineral.*, 70, 215 (abs. ref. 1). (3) Kupčík, V. (1984) Die Kristallstruktur des Minerals Eclarit (Cu, Fe)Pb<sub>9</sub>Bi<sub>12</sub>S<sub>28</sub>. *Tschermaks Mineral. Petrog. Mitt.*, 32, 259–269 (in German with English abs.). (4) Wulf, R. (1995) Experimental distinction of elements with similar atomic number in (Pb, Bi)-sulfosalts. *Mineral. Petrol.*, 52, 187–196.