Euchroite $Cu_2(AsO_4)(OH)\cdot 3H_2O$

Crystal Data: Orthorhombic. *Point Group:* 222. Typically euhedral crystals, to 2 cm, equant to short prismatic [010], may be thick tabular {100}, showing large {010}, {100}, {110}, {101}, {0*kl*}, {*h*0*l*}, striated ‖ [010].

Physical Properties: *Cleavage:* {101}, {110}, interrupted. *Fracture:* Uneven to subconchoidal. *Tenacity:* Brittle. Hardness = 3.5–4 D(meas.) = 3.44 D(calc.) = 3.47

Optical Properties: Transparent to translucent. *Color:* Bright emerald-green or leek-green; bright bluish green in transmitted light. *Luster:* Vitreous.
Optical Class: Biaxial (+). *Pleochroism:* Weak. *Orientation:* $X = c$; $Y = a$; $Z = b$.
Dispersion: $r > v$, moderate. $\alpha = 1.695(3)$ $\beta = 1.698(3)$ $\gamma = 1.733(3)$ 2V(meas.) = 29(1)°

Cell Data: *Space Group:* $P2_12_12_1$. $a = 10.056(2)$ $b = 10.506(2)$ $c = 6.103(2)$ Z = 4

X-ray Powder Pattern: Lubietová, Slovakia.
5.34 (10), 2.83 (9), 7.37 (8), 2.64 (8), 2.55 (7), 3.71 (6), 1.510 (5)

Chemistry:

	(1)	(2)
P_2O_5	1.48	
As_2O_5	30.90	34.09
CuO	47.26	47.20
H_2O^+	16.16	18.71
H_2O^-	3.12	
Total	98.92	100.00

(1) Lubietová, Slovakia. (2) $Cu_2(AsO_4)(OH)\cdot 3H_2O$.

Occurrence: A very rare mineral in the oxidized zone of some copper-bearing hydrothermal mineral deposits.

Association: Olivenite (Lubietová, Slovakia); strashimirite, olivenite, azurite, malachite (Zapachitsa deposit, Bulgaria).

Distribution: From L'ubietová, near Baňská Bystrica (Libethen, near Neusohl), Slovakia. At Laurium, Greece, in slag. From the Zapachitsa copper deposit, Ismerez, Stara-Planina, Bulgaria. In the USA, at the Black Pine mine, Philipsburg, Granite Co., and along Cramer Creek, Missoula Co., Montana; in the Monte Cristo mine, Weden Creek, Snohomish Co., Washington; at Sterling Hill, Ogdensburg, Sussex Co., New Jersey.

Name: From the Greek for *beautiful color.*

Type Material: Mining Academy, Freiberg, Germany, 21335.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 934–935. (2) Berry, L.G. (1951) Observations on conichalcite, cornwallite, euchroite liroconite and olivenite. Amer. Mineral., 36, 484–503. (3) Eby, R.K. and F.C. Hawthorne (1989) Euchroite, a heteropolyhedral framework structure. Acta Cryst., C45, 1479–1482.