

Claraite**(Cu, Zn)₃(CO₃)(OH)₄•4H₂O**

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Crystal Data: Triclinic, pseudohexagonal. *Point Group:* $\bar{1}$ or 1. As crusts and spherules composed of divergent tabular to pseudorhomboidal crystals, to 0.5 mm.

Physical Properties: *Cleavage:* On pseudo- $\{10\bar{1}0\}$, perfect. *Hardness* = ~2
D(meas.) = 3.35(5) D(calc.) = 3.34

Optical Properties: Semitransparent. *Color:* Bluish green. *Luster:* Vitreous.
Optical Class: Uniaxial (-), may be weakly biaxial (-). *Pleochroism:* *O* = pale green to bluish green; *E* = colorless to pale green. *Dispersion:* $r \gg v$. $\omega = 1.751(2)$ $\epsilon = 1.645(2)$
2*V*(meas.) = n.d.

Cell Data: *Space Group:* $P\bar{1}$ or *P1*. $a = 14.28$ $b = 8.03$ $c = 7.27$ $\alpha = 79.16^\circ$
 $\beta = 107.90^\circ$ $\gamma = 99.68^\circ$ $Z = 4$

X-ray Powder Pattern: Clara mine, Germany.
13.47 (10), 7.84 (9), 3.65 (8), 5.17 (6), 2.96 (6), 3.24 (5), 2.72 (4)

Chemistry:	(1)
	CO ₂ 11.6
	MnO 1.2
	CuO 52.2
	ZnO 8.0
	H ₂ O [27.0]
	<hr/> Total [100.00]

(1) Clara mine, Germany; by electron microprobe, average of two analyses, H₂O by difference; corresponding to (Cu_{2.56}Zn_{0.38}Mn_{0.06})_{Σ=3.00}(CO₃)_{1.03}(OH)_{3.94}•3.85H₂O.

Occurrence: A rare secondary mineral in oxidized Cu–Zn deposits.

Association: Malachite, azurite, olivenite, barite, fluorite, quartz (Clara mine, Germany); malachite, devilline, gypsum (Rudabánya, Hungary).

Distribution: From the Clara mine, near Oberwolfach, Black Forest, Germany. At Rudabánya, Hungary.

Name: For the Clara mine, Germany, where the first specimens were collected.

Type Material: University of Stuttgart, Stuttgart, Germany; National Museum of Natural History, Washington, D.C., USA, 148464.

References: (1) Walenta, K. and P.J. Dunn (1982) Claraite, ein neues Karbonatmineral aus der Grube Clara (mittlerer Schwarzwald). *Chem. Erde*, 41, 97–102 (in German with English abs.). (2) (1983) *Amer. Mineral.*, 68, 471 (abs. ref. 1). (3) Walenta, K. (1999) On the lattice constants of claraite. *Der Erzgräber*, 13, 20–22 (in German). (4) (2003) *Amer. Mineral.*, 88, 254 (abs. ref. 3).