

Crystal Data: Monoclinic. *Point Group:* 2/m. As crystals, tabular on {001}, with rectangular outline, to 2 mm; typically as an incrustation.

Physical Properties: *Cleavage:* In two directions. Hardness = n.d. D(meas.) = 3.27 D(calc.) = 3.28 Soluble in H₂O.

Optical Properties: Semitransparent. *Color:* Emerald-green; emerald-green in transmitted light.

Optical Class: Biaxial (+). *Pleochroism:* X = pale grass-green; Y = grass-green; Z = bright yellow-green. $\alpha = 1.580$ $\beta = 1.605$ $\gamma = 1.644$ 2V(meas.) = Moderately large.

Cell Data: *Space Group:* C2/a. $a = 18.41(5)$ $b = 9.43(3)$ $c = 14.21(5)$ $\beta = 113.7(3)^\circ$ Z = 8

X-ray Powder Pattern: Vesuvius, Italy.

8.44 (100), 2.816 (47), 2.544 (45), 2.843 (40), 2.852 (37), 3.475 (30), 3.237 (25)

Chemistry:

	(1)	(2)
SO ₃	41.41	43.13
Al ₂ O ₃	0.06	
CuO	43.69	42.85
MgO	0.17	
CaO	0.07	
Na ₂ O	6.35	5.56
K ₂ O	8.25	8.46
Total	[100.00]	100.00

(1) Vesuvius, Italy; by electron microprobe, average of seven analyses, recalculated to 100% from an original total of 101.86%, (SO₄)²⁻ shown present by IR; corresponds to K_{1.01}Na_{1.18}Mg_{0.02}Ca_{0.01}Cu_{3.15}O_{1.27}(SO₄)₃. (2) KNaCu₃O(SO₄)₃.

Occurrence: A rare sublimate around volcanic fumaroles.

Association: Dolerophanite, eriochalcite, chalcocyanite, melanothallite (Vesuvius, Italy); stoiberite, fingerite, ziesite, thénardite, mcbirneyite (Izalco volcano, El Salvador); eriochalcite, melanothallite, fedotovite, vergasovaite, chalcocyanite, dolerophanite, tenorite, cuprian anglesite, gold (Tolbachik volcano, Russia).

Distribution: From Vesuvius, Campania, Italy. On the Izalco volcano, El Salvador. At the Tolbachik fissure volcano, Kamchatka Peninsula, Russia,

Name: From the Greek for *pale green*, in allusion to the typical color.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 571. (2) Scordari, F., F. Stasi, and A. DeMarco (1989) Euchlorin: new crystallographic and chemical data. Neues Jahrb. Mineral., Monatsh., 541–550. (3) Scordari, F. and F. Stasi (1990) The crystal structure of euchlorin, NaKCu₃O(SO₄)₃. Neues Jahrb. Mineral., Monatsh., 241–253.