

Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. [Massive.]

Physical Properties: *Cleavage:* {001}, perfect; parting on {011} (synthetic). *Tenacity:* Brittle. Hardness = 3.5 D(meas.) = n.d. D(calc.) = 3.35 Reacts quickly with water or water vapor to form highly soluble and reactive portlandite.

Optical Properties: Semitransparent. *Color:* Colorless to pale yellowish green. *Luster:* Vitreous. *Optical Class:* Isotropic. $n = 1.837$

Cell Data: *Space Group:* $Fm\bar{3}m$ (synthetic). $a = 4.81059(9)$ $Z = 4$

X-ray Powder Pattern: Synthetic.

2.4059 (100), 1.7009 (54), 2.777 (34), 1.4505 (16), 1.3888 (16), 1.0758 (16), 0.8018 (16)

Chemistry: No analyses of natural material appear to be available.

Polymorphism & Series: Forms a solid solution series with monteponite.

Occurrence: In thermally metamorphosed calcareous ejecta (Vesuvius, Italy); in burning coal measures (Kopeysk, Russia); an accessory phase by oxidative sintering in medium-temperature, combustion metamorphic spurrite-fluorellestadite-fluorapatite marbles (Jordan).

Association: Calcite (Vesuvius, Italy); fluorellestadite, periclase, magnesioferrite, hematite, srebrodolskite, anhydrite (Kopeysk, Russia); calcite, spurrite, fluorellestadite, brownmillerite, Zn-rich periclase (Jordan).

Distribution: On Vesuvius, Campania, Italy. From around Kopeysk, Chelyabinsk coal basin, Southern Ural Mountains, Russia. In the Campbell mine, Bisbee, Cochise Co., Arizona, USA. In the northern Siwaqa complex, Tulul Al Hammam area, Dead Sea region, Central Jordan.

Name: From the Old English, *quicklime*.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 503. (2) McMurdie, H. (1986) Powder Diff., 1, 266. (3) Khoury, H.N., E.V. Sokol, S.N. Kokh, Y.V. Seryotkin, O.A. Kozmenko, S.V. Goryainov, and I.D. Clark (2016) Intermediate members of the lime-monteponite solid solutions ($Ca_{1-x}Cd_xO$, $x = 0.36-0.55$): Discovery in natural occurrence. Amer. Mineral., 101, 146-161.