Caoxite $CaC_2O_4 \cdot 3H_2O$

Crystal Data: Triclinic. *Point Group:* $\overline{1}$. As elongated crystals, tabular on {010}, with polygonal outline, to 0.5 mm; as crystalline spherulites.

Physical Properties: *Cleavage:* On {010}, good. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 1.87

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (–). $\alpha = 1.483(3)$ (α') $\beta = [1.516]$ $\gamma = 1.533(3)$ (γ') 2V(meas.) = 70(2)°

Cell Data: *Space Group:* $P\overline{1}$. $a = 6.097(1)$ $b = 7.145(1)$ $c = 8.434(1)$ $\alpha = 76.54(1)°$ $\beta = 70.30(1)°$ $\gamma = 70.75(1)°$ Z = 2

X-ray Powder Pattern: Cerchiara mine, Italy.
5.52 (vs), 2.834 (s), 7.92 (m), 5.26 (m), 4.99 (m), 3.643 (m), 2.758 (m)

Chemistry:

	(1)	(2)
C_2O_3	[39.54]	39.54
CaO	30.03	30.79
H_2O	[29.67]	29.67
Total	[99.24]	100.00

(1) Cerchiara mine, Italy; by electron microprobe, average of five analyses, C_2O_3 and H_2O calculated from the ideal formula; corresponds to $Ca_{0.98}C_{2.01}O_4 \cdot 3.01H_2O$ (2) $CaC_2O_4 \cdot 3H_2O$.

Occurrence: In veinlets cutting metamorphosed Mn–Ba-rich cherts in an obducted ophiolite.

Association: Quartz, barite, manganese oxides.

Distribution: From the Cerchiara mine, near Faggiona, Val di Vara, Liguria, Italy.

Name: An acronym with two meanings, for the essential chemical components, CAlcium and OXalate, or the Centennial Anniversary Of X-rays, an essential analytical tool in modern mineralogy.

Type Material: University of Genoa, Genoa, Italy.

References: (1) Basso, R., G. Lucchetti, L. Zefiro, and A. Palenzona (1997) Caoxite, $Ca(H_2O)_3(C_2O_4)$, a new mineral from the Cerchiara mine, northern Appennines, Italy. Neues Jahrb. Mineral., Monatsh., 84–96. (2) (1998) Amer. Mineral., 83, 185 (abs. ref. 1).