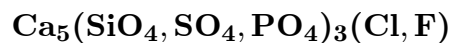


Chlorellestadite



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Crystal Data: Hexagonal or monoclinic, pseudo-hexagonal. *Point Group:* 6/m or 2/m. Massive, granular.

Physical Properties: *Cleavage:* Indistinct on {0001} and {10 $\bar{1}$ 0}. *Hardness* = ~5
D(meas.) = 3.068 D(calc.) = 3.046

Optical Properties: Translucent. *Color:* Pale rose, rose-pink, orange. *Luster:* Vitreous.
Optical Class: Uniaxial (-). $\omega = 1.655(2)$ $\epsilon = 1.650(2)$

Cell Data: *Space Group:* $P6_3/m$. $a = 9.530(2)$ $c = 6.914(2)$ $Z = 2$

X-ray Powder Pattern: Crestmore, California, USA.
2.843 (100), 2.751 (70), 3.458 (50), 2.800 (40), 1.964 (40), 1.855 (40), 2.651 (30)

| Chemistry: | (1) | | (1) | |
|------------|--------------------------------|-------|-------------------------------|-------|
| | SiO ₂ | 17.31 | Cl | 1.64 |
| | Al ₂ O ₃ | 0.13 | H ₂ O ⁺ | 0.53 |
| | Fe ₂ O ₃ | 0.22 | H ₂ O ⁻ | 0.10 |
| | MnO | 0.01 | CO ₂ | 0.61 |
| | MgO | 0.47 | P ₂ O ₅ | 3.06 |
| | CaO | 55.18 | SO ₃ | 20.69 |
| | F | 0.57 | -O = (F, Cl) ₂ | 0.61 |
| | | | Total | 99.91 |

(1) Crestmore, California, USA.

Mineral Group: Ellestadite group.

Occurrence: In veinlets cutting contact metamorphosed limestone.

Association: Diopside, wollastonite, vesuvianite, monticellite, okenite, calcite.

Distribution: From Crestmore, Riverside Co., California, USA.

Name: For Dr. Reuben B. Ellestad (1900–), American analytical chemist, University of Minnesota, Minneapolis, Minnesota, USA, and *chlorine* in the chemical composition.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 906 [ellestadite]. (2) McConnell, D. (1937) The substitution of SiO₄– and SO₄–groups for PO₄–groups in the apatite structure; ellestadite, the end-member. *Amer. Mineral.*, 22, 977–986. (3) Rouse, R.C. and P.J. Dunn (1982) A contribution to the crystal chemistry of ellestadite and the silicate sulfate apatites. *Amer. Mineral.*, 67, 90–96.