

Crystal Data: Monoclinic. *Point Group:* 2/m. Crystals display {010}, {100}, {001}, {110}, {011}, and {101} to 1 mm. *Twinning:* Simple and polysynthetic on (010).

Physical Properties: *Cleavage:* Good on {010}. *Fracture:* n.d. *Tenacity:* n.d. Hardness = 5.5 VHN = 352 (50 g load). D(meas.) = n.d. D(calc.) = 2.916

Optical Properties: Transparent. *Color:* Colorless; white aggregates. *Streak:* White. *Luster:* Vitreous.

Optical Class: Biaxial (+). $\alpha = 1.625(2)$ $\beta = 1.629(2)$ $\gamma = 1.635(2)$ $2V(\text{meas.}) = 80(5)^\circ$ $2V(\text{calc.}) = 78.7^\circ$ *Dispersion:* $r > v$, medium. *Orientation:* $Z = a$, $X \wedge c = 12(2)^\circ$

Cell Data: *Space Group:* $P2_1/b$. $a = 5.06720(10)$ $b = 11.35450(10)$ $c = 15.3941(2)$ $\alpha = 100.5870(10)^\circ$ $Z = 2$

X-ray Powder Pattern: Calculated pattern.

3.03 (100), 2.82 (78), 2.76 (65), 2.62 (55), 1.91 (52), 3.81 (41), 1.89 (35)

Chemistry:	(1)
SiO ₂	31.10
CaO	65.33
F	1.52
- O = F	0.65
<u>H₂O</u>	<u>1.61</u>
Total	98.91

(1) Upper Chegem caldera, Kabardino-Balkaria, Northern Caucasus, Russia; electron microprobe analysis, supplemented by IR and Raman spectroscopy H₂O calculated for charge balance; corresponds to Ca_{9.001}(SiO₄)_{3.999}[(OH)_{1.38}F_{0.62}]_{Σ=2.00}.

Polymorphism & Series: Forms a series with edgrewite.

Mineral Group: Calcium Humite group.

Occurrence: In xenoliths of carbonate-silicate rock altered to sanidinite facies metamorphic rock within ignimbrites.

Association: Bultfonteinite, hillebrandite, jennite, chegemite, larnite, rondorfite, hydroxyllestadite.

Distribution: From the Upper Chegem caldera, Kabardino-Balkaria, Northern Caucasus, Russia.

Name: For its relation to *edgrewite* and dominance of *hydroxyl* over fluorine.

Type Material: Museum of Natural History, Bern, Switzerland (41086) and in the A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4164/1).

References: (1) Galuskin, E.V., B. Lazic, T. Armbruster, I.O. Galuskina, N.N. Pertsev, V.M. Gazeev, R. Włodyka, M. Dulski, P. Dzierżanowski, A.E. Zadov, and L.S. Dubrovinsky (2012) Edgrewite Ca₉(SiO₄)₄F₂-hydroxyledgrewite Ca₉(SiO₄)₄(OH)₂, a new series of calcium humite-group minerals from altered xenoliths in the ignimbrite of Upper Chegem caldera, Northern Caucasus, Kabardino-Balkaria, Russia. *Amer. Mineral.*, 97, 1998-2006.