

**Crystal Data:** Hexagonal. *Point Group:* 32. Rare as aggregates of rhombohedral crystals, to 2 mm; most commonly as spheroids and crusts.

**Physical Properties:** Hardness = n.d. *D*(meas.) = 2.38 (synthetic). *D*(calc.) = 2.48

**Optical Properties:** Transparent to opaque. *Color:* Colorless to white.  
*Optical Class:* Uniaxial (-).  $\omega = 1.590\text{--}1.591$   $\epsilon = 1.545\text{--}1.546$

**Cell Data:** *Space Group:* *P*3<sub>1</sub>21 or *P*3<sub>2</sub>21.  $a = 6.084(4)$   $c = 7.542(7)$   $Z = 3$

**X-ray Powder Pattern:** Lake Issyk-Kol, Kyrgyzstan.  
2.17 (10), 1.926 (10), 4.49 (9), 3.15 (9), 2.90 (8), 1.770 (7), 1.746 (7)

<b>Chemistry:</b>	(1)	(2)	(3)		(1)	(2)	(3)
CO <sub>2</sub>	38.96	33.6	37.27	K <sub>2</sub> O		0.07	
FeO		0.13		H <sub>2</sub> O <sup>-</sup>		2.1	
MgO		2.49		H <sub>2</sub> O <sup>+</sup>	11.61	15.9	15.25
CaO	49.30	42.5	47.48	insol.	0.79	5.0	
SrO		0.40		<b>Total</b>	<b>100.66</b>	<b>102.88</b>	<b>100.00</b>
Na <sub>2</sub> O		0.69					

(1) Lake Issyk-Kol, Kyrgyzstan; corresponds to CaCO<sub>3</sub>•0.65H<sub>2</sub>O. (2) Lake Fellmongery, Australia; corresponds to (Ca<sub>0.91</sub>Mg<sub>0.07</sub>)<sub>Σ=0.98</sub>CO<sub>3</sub>•1.15H<sub>2</sub>O. (3) CaCO<sub>3</sub>•H<sub>2</sub>O.

**Occurrence:** In lake-bed sediments and as tuffaceous deposits on lake margins, formed by precipitation at pH > 8.0 and high Mg:Ca or by biological activity; in caves, in speleothems, crusts, and “moonmilk,” probably formed from an aerosol, possibly in the presence of organic matter; rarely in hydrothermal mineral deposits.

**Association:** Calcite, aragonite, hydromagnesite, nesquehonite.

**Distribution:** From Lake Issyk-Kol, Kyrgyzstan. At Lakes Maibalyk and Teke, Kazakhstan. From Lake Kivu, on the Congo (Zaire)–Rwanda border. In the Sarfartôq carbonatite complex, near Kangerdlugssuaq, Greenland. In Castleguard Cave, Columbia Icefields, Alberta, Canada. In the USA, from the Gunsight, Cottonwood, and Hidden Caves, Guadalupe Mountains, Eddy Co., New Mexico; at Sterling Hill, Ogdensburg, Sussex Co., New Jersey. From the Muckcross mine, Co. Kerry, Ireland. In the Gersteneegg-Sommerloch cable tunnel, north of the Grimsel Pass, Bern, Switzerland. At the Vrančice deposit, near Příbram, and at Jáchymov (Joachimsthal), Czech Republic. From the Sedmochislenitsi deposit, western Stara Planina Mountains, Bulgaria. In the Feengrotten Cave, Thuringia, and at Ramsbeck, North Rhine-Westphalia, Germany. At Rauenthal, near Sainte-Marie-aux-Mines, Haut-Rhin, France. Around and in Lakes Fellmongery and Butler, near Robe, South Australia.

**Name:** For having the composition of *calcite* and the Greek for *one*, as with an additional H<sub>2</sub>O.

**Type Material:** A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 72027.

**References:** (1) Semenov, E.I. (1964) Hydrous carbonates of calcium and sodium. *Kristallografiya* (Sov. Phys. Crystal.), 9, 109–110 (in Russian). (2) (1964) *Amer. Mineral.*, 49, 1151 (abs. ref. 1). (3) Řídkošil, T., J. Sejkora, and P. Ondruš (1991) Monohydrocalcite from polymetallic vein of the Vrančice deposit, near Příbram, Czechoslovakia. *Neues Jahrb. Mineral., Monatsh.*, 289–295. (4) Effenberger, H. (1980) The crystal structure of calcium carbonate monohydrate, CaCO<sub>3</sub>•H<sub>2</sub>O. 6th European Crystallographic Meeting, Barcelona, Spain.