

Riversideite

Ca₅Si₆O₁₆(OH)₂•2H₂O

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Crystal Data: Orthorhombic. *Point Group:* n.d. Cross-veinlet fibrous, to 1 cm; massive.

Physical Properties: *Cleavage:* {001}, perfect; {100}, secondary. *Hardness =* Soft.
D(meas.) = n.d. D(calc.) = 2.6–2.7

Optical Properties: Translucent to nearly opaque. *Color:* White. *Luster:* Silky.
Optical Class: Biaxial (+). *Orientation:* X = c; Y = b; Z = a. *Dispersion:* Observed.
 $\alpha = 1.600(2)$ $\beta = 1.601(2)$ $\gamma = 1.605(2)$ $2V(\text{meas.}) = \text{Small}$.

Cell Data: *Space Group:* n.d. $a = 11.3$ $b = 7.30$ $c = 18.0$ $Z = 4$

X-ray Powder Pattern: Crestmore, California, USA; from 9.3 Å product of dehydrated tobermorite.

3.03 (vs), 2.33 (s), 1.83 (s), 9.3 (m), 3.59 (m), 2.78 (m), 1.66 (m)

Chemistry:

	(1)	(2)
SiO ₂	35.3	51.87
TiO ₂	< 0.1	
Al ₂ O ₃	1.3	
Fe ₂ O ₃	0.4	
MgO	1.4	
CaO	48.2	40.35
H ₂ O ⁺	13.3	7.78
Total	[100.0]	100.00

(1) Crestmore, California, USA; recalculated to 100.0% after deduction of CaO in calcite and P₂O₅ and SO₄ in apatite. (2) Ca₅Si₆O₁₆(OH)₂•2H₂O.

Occurrence: As intimate intergrowths with apatite, in veinlets cutting contact metamorphosed limestone (Crestmore, California, USA).

Association: Apatite, vesuvianite, diopside, calcite, wollastonite (Crestmore, California, USA).

Distribution: From Crestmore, Riverside Co., California, USA. At Ballycraigy, near Larne, Co. Antrim, Ireland. In the Hatrurim Formation, Israel.

Name: For the first-noted occurrence in Riverside Co., California, USA.

Type Material: National Museum of Natural History, Washington, D.C., USA, 93416.

References: (1) Eakle, A.S. (1917) Minerals associated with the crystalline limestone at Crestmore, Riverside County, California. Bull. Dept. Geol. Univ. Calif., 10(19), 327–360. (2) Taylor, H.F.W. (1953) Crestmoreite and riversideite. Mineral. Mag., 30, 155–165. (3) McConnell, J.D.C. (1954) The hydrated calcium silicates riversideite, tobermorite, and plombierite. Mineral. Mag., 30, 293–305. (4) Heller, L. and H.F.W. Taylor (1956) Crystallographic data for the calcium silicates. H.M. Stationary Office, London, 30–45. (5) Taylor, H.F.W. (1957) The dehydration of tobermorite. Clays and Clay Minerals, 6, 101–109. (6) Mamedov, K.S. and N.V. Belov (1958) Crystal structure of tobermorite (tobermorites). Doklady Acad. Nauk SSSR, 123, 163–165 (in Russian). (7) (1959) Chem. Abs., 53, 5030 (abs. ref. 6).