

BaCa[CO ₃] ₂ [H ₂ O] _{2.6}	<i>hP60</i>	(186) <i>P6₃mc</i> – d ⁴ cb ² a
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Ba(Na_{0.43}Ca_{0.31}Ce_{0.28})(CO₃)₂·2.6H₂O [1], ewaldite-(Ce)

Structural features: Triple Ca-CO₃-Ba slabs (Ca, C and Ba form triangle-mesh layers in c stacking; CO₃ perpendicular to [001]) alternate with slabs containing a disordered arrangement of CO₃ trigonal units and H₂O.

Voloshin A.V. et al. (1992) [1]

BaCCaH_{5.40}O_{8.64}

a = 0.5318, *c* = 1.2837 nm, *c/a* = 2.414, *V* = 0.3144 nm³, *Z* = 2

site	Wyck.	sym.	<i>x</i>	<i>y</i>	<i>z</i>	occ.	atomic environment
O1	12 <i>d</i>	1	0.081	0.292	0.262	0.37	
(OH ₂)2	12 <i>d</i>	1	0.466	0.231	0.224	0.21	
O3	12 <i>d</i>	1	0.53	0.062	0.276	0.12	
(OH ₂)4	12 <i>d</i>	1	0.603	0.212	0.15	0.24	
O5	6 <i>c</i>	. <i>m</i> .	0.139	0.861	0.001		single atom C
Ca6	2 <i>b</i>	3 <i>m</i> .	¹ / ₃	² / ₃	0.1225		non-coplanar triangle O ₃
Ba7	2 <i>b</i>	3 <i>m</i> .	¹ / ₃	² / ₃	0.427		
C8	2 <i>a</i>	3 <i>m</i> .	0	0	0.0		non-coplanar triangle O ₃

Transformation from published data: -*x*, -*y*, -*z*; origin shift 0 0 0.073

Experimental: single crystal, diffractometer, X-rays, R = 0.045

Remarks: Natural specimen from the Vuoriyarvi massif, Kola Peninsula. 3.30 wt.% Na₂O, 5.34 wt.% CaO, 2.14 wt.% SrO, 41.37 wt.% BaO, 2.19 wt.% La₂O₃, 6.55 wt.% Ce₂O₃, 1.21 wt.% Pr₂O₃, 1.64 wt.% Nd₂O₃, 0.35 wt.% Sm₂O₃, 24.09 wt.% CO₂, and 11.82 wt.% H₂O found by electron microprobe analysis. Part of C not located. Short interatomic distances for partly occupied site(s). Hydrogen atoms are not taken into consideration for Pearson symbol, Wyckoff sequence and atomic environments.

References: [1] Voloshin A.V., Subbotin V.V., Yakovenchuk V.N., Pakhomovskii Y.A., Men'shikov Y.P., Nadezhina N.T., Pushcharovskii D.Y. (1992), Zap. Vseross. Mineral. O-va. 121(1), 56-67.