

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As bladed to tabular crystals flattened on {001} and elongated on [010], showing {001}, {101}, and {010} to 0.6 mm; as rosettes to 1 mm.

Physical Properties: *Cleavage:* Perfect on {001}. *Fracture:* Splintery. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 3.99

Optical Properties: Translucent to transparent. *Color:* Colorless to white. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.635$ $\beta = 1.725$ $\gamma = 1.750$ $2V(\text{calc.}) = 53^\circ$

Cell Data: *Space Group:* $P\bar{1}$. $a = 6.3916(5)$ $b = 6.4005(4)$ $c = 12.3898(9)$
 $\alpha = 100.884(4)^\circ$ $\beta = 96.525(4)^\circ$ $\gamma = 100.492(4)^\circ$ $Z = 2$

X-ray Powder Pattern: Galgenberg railroad tunnel, Styria, Austria.
 5.052 (100), 3.011 (70), 3.006 (66), 5.899 (59), 3.900 (51), 3.125 (46), 2.526 (42)

Chemistry:	(1)	(2)
CaO	9.49	9.70
Ce ₂ O ₃	28.95	56.74
La ₂ O ₃	11.70	
Nd ₂ O ₃	11.86	
Pr ₂ O ₃	3.48	
CO ₂	[30.00]	30.44
H ₂ O	[3.07]	3.12
Total	98.55	100.00

(1) Galgenberg railroad tunnel, Styria, Austria; average of 6 electron microprobe analyses supplemented by IR spectroscopy, CO₂ and H₂O calculated from stoichiometry; corresponding to Ca_{0.99}(Ce_{1.04}La_{0.42}Nd_{0.41}Pr_{0.12}) $\Sigma=1.99$ (CO₃)₄•H₂O. (2) CaCe₂(CO₃)₄•H₂O.

Occurrence: In small fissures cutting an albite–chlorite schist.

Association: Calcite, siderite, ancylite-(Ce), pyrite, kaolinite, albite, chlorite.

Distribution: From the Galgenberg railroad tunnel between Leoben and St. Michael, Styria, Austria.

Name: For the locality, the *Galgenberg* railroad tunnel, that produced the first specimens and suffix for the dominant rare earth element, *Cesium*.

Type Material: The Institute of Earth Sciences, University of Graz, Austria.

References: (1) Hollerer, C.E. (1998) Ca(REE)₂(CO₂)₄•H₂O, a new mineral from Steiermark, Austria. *Mitteil. Österr. Mineral. Ges.*, 143, 200–201 (in German). (2) (2004) *Amer. Mineral.*, 89, 1826–1827 (abs. ref. 1). (3) Walter, F., H.-P. Bojar, C. E. Hollerer, and K. Mereiter (2013) The crystal structure of galgenbergite-(Ce), CaCe₂(CO₃)₄•H₂O. *Mineralogy and Petrology*, 107(2), 189–199.