

Crystal Data: Monoclinic. *Point Group:* 2/*m*. Crystals tabular {001} or pseudomorphous after a rhombohedral carbonate mineral, to 5 cm; may also be massive in porous mounds.

Physical Properties: *Tenacity:* Friable in aggregates. Hardness = n.d. D(meas.) = 1.77 D(calc.) = [1.833] Readily dehydrates to calcite above 8 °C.

Optical Properties: Translucent. *Color:* Brown.

Optical Class: Biaxial (-). *Orientation:* $Y = b$; $Z \wedge c = 17^\circ$. $\alpha = 1.455\text{--}1.460$
 $\beta = 1.535\text{--}1.538$ $\gamma = 1.545$ 2V(meas.) = 38°–45°

Cell Data: *Space Group:* C2/*c*. $a = 8.792(2)$ $b = 8.310(2)$ $c = 11.021(2)$
 $\beta = 110.53(5)^\circ$ $Z = 4$

X-ray Powder Pattern: Synthetic. (ICDD 37-416).

5.171 (100), 2.643 (85), 2.629 (70), 2.804 (50), 2.464 (33), 4.162 (29), 2.774 (27)

Chemistry:

	(1)	(2)
CO ₂	21.12	21.14
CaO	26.92	26.94
H ₂ O	51.34	51.92
Total	99.38	100.00

(1) Sub-bottom sediment, Bransfield Strait, Antarctica; CO₂ and H₂O partitioned from weight loss according to stoichiometry. (2) CaCO₃•6H₂O.

Occurrence: Forms in sea water and lake water in anerobic, organic-rich periglacial and glaciomarine environments near 0 °C, readily converting to calcite at higher temperatures.

Association: n.d.

Distribution: Likely more widespread than the following studied localities would indicate. From the waters of the Ika Fjord, eight km south of Ivigtut, Greenland. In sub-bottom sediment, Bransfield Strait, King George Basin, Antarctica. In the Zaire deep-sea fan, Atlantic Ocean. In sediments of the Nankai Trough, south of Japan. Seasonally at the tufa mounds of Mono Lake, Mono Co., California, USA.

Name: For the Ika Fjord, Greenland, where the first specimens were collected.

Type Material: n.d.

References: (1) Pauly, H. (1963) Ikait, nyt mineral der danner skaer. Naturens Verden (Copenhagen), June issue, 168–192. (in Danish). (2) (1964) Amer. Mineral., 49, 439 (abs. ref. 1). (3) Suess, E., W. Balzer, K.-F. Hesse, P.J. Müller, C.A. Ungerer and G. Wefer (1982) Calcium carbonate hexahydrate from organic-rich sediments of the Antarctic Shelf: precursors of glendonites. Science, 216, 1128–1131. (4) Jansen, J.H.F., C.F. Woensdregt, M.J. Kooistra, and S.J. van der Gaast (1987) Ikaite pseudomorphs in the Zaire deep-sea fan: an intermediate between calcite and porous calcite. Geology, 15, 245–248. (5) Hesse, K.F., H. Küppers, and E. Suess (1983) Refinement of the structure of ikaite, CaCO₃•6H₂O. Zeits. Krist., 163, 227–231. (6) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 228 [mention of synthetic under "pentahydrocalcite"].