

Scarbroite**Al₅(CO₃)(OH)₁₃•5H₂O**

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Crystal Data: Triclinic, pseudo-hexagonal. *Point Group:* $\bar{1}$ or 1. Crystals, to 1 μ m, platy; in nodules and aggregates, very fine-grained, compact, massive.

Physical Properties: *Tenacity:* Friable, clayey. Hardness = "Soft". D(meas.) = 2.01(1) D(calc.) = 2.00

Optical Properties: Semitransparent. *Color:* White, may be discolored gray to brown. *Luster:* Dull.

Optical Class: Biaxial. $n = 1.509$ $\alpha = \text{n.d.}$ $\beta = \text{n.d.}$ $\gamma = \text{n.d.}$ $2V(\text{meas.}) = \text{n.d.}$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* $P\bar{1}$ or $P1$. $a = 9.94$ $b = 14.88$ $c = 26.47$ $\alpha = 98.7^\circ$ $\beta = 96.5^\circ$ $\gamma = 89.0^\circ$ $Z = 8$

X-ray Powder Pattern: Scarborough, England. 8.66 (vvs), 3.724 (s), 5.99 (ms), 4.331 (ms), 8.34 (m), 5.63 (m), 4.906 (m)

Chemistry:	(1)	(2)
SiO ₂	3.2	
SO ₃	1.8	
CO ₂	7.9	8.70
Al ₂ O ₃	45.7	50.37
MgO	0.1	
Na ₂ O	1.7	
K ₂ O	0.2	
H ₂ O	37.9	40.93
Total	98.5	100.00

(1) Scarborough, England; corresponding to Al_{5.0}(CO₃)(OH)_{12.9}•5.2H₂O.

(2) Al₅(CO₃)(OH)₁₃•5H₂O.

Occurrence: In vertical fissures in sandstone (Scarborough, England); authigenic, probably formed by dessication of near-shore bottom sediments of a hypersaline lake (Muskiki Lake, Canada).

Association: Hydroscarbrite, gibbsite, kaolinite, calcite, quartz (Scarborough, England); illite, kaolinite, smectite, "chlorite", huntite, feldspar, quartz (Muskiki Lake, Canada).

Distribution: In England, from South Bay, near Scarborough, North Yorkshire, and at Weston Favell, Northampton. From near Nikšić, Yugoslavia. In Canada, from Muskiki Lake, Saskatchewan.

Name: For its first-noted occurrence near Scarborough [contracted to Scarbro, the common local pronunciation], England.

Type Material: The Natural History Museum, London, England, 1984,898.

References: (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 694. (2) Duffin, W.J. and J. Goodyear (1960) A thermal and X-ray investigation of scarbroite. Mineral. Mag., 32, 353-362. (3) Brindley, G.W. and J.J. Comer (1960) Electron-optical data for crystals of scarbroite. Mineral. Mag., 32, 363-365. (4) Brindley, G.W. (1980) Scarbroite, Al₅(OH)₁₃CO₃•5H₂O, compared with gibbsite and hydrotalcite. Mineral. Mag., 43, 615-618. (5) King, R.J. (1982) A new occurrence of scarbroite in Britain. J. Russell Soc., 1(1), 9-18.