Strontiodresserite

\((\text{Sr, Ca})_2\text{Al}_2(\text{CO}_3)_2(\text{OH})_4\cdot\text{H}_2\text{O}\)

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Crystal Data: Orthorhombic. Point Group: \(2/m 2/m 2/m\). As lathlike crystals, to 0.2 mm, typically in radially divergent aggregates forming atoll-shaped rings or smooth spheres.

Physical Properties: Hardness = n.d. \(D(\text{meas.}) = 2.71\) \(D(\text{calc.}) = 2.73\)

Optical Properties: Transparent to translucent. Color: White. Luster: Vitreous to silky. Optical Class: Biaxial (-). Orientation: \(Y \parallel\) elongation; \(X \perp\) elongation and in the plane of flattening. \(\alpha = 1.510(4)\) \(\beta = 1.583(2)\) \(\gamma = [1.595(4)]\) \(2V(\text{meas.}) = 42.5(1)^\circ\)

Cell Data: Space Group: [Pbnm] (by analogy to dundasite). \(a = 9.168(4)\) \(b = 16.037(6)\) \(c = 5.598(3)\) \(Z = 4\)

X-ray Powder Pattern: Francon quarry, Canada. 7.97 (10), 3.021 (8), 6.04 (7), 2.648 (6), 2.052 (6), 1.738 (6), 4.41 (5)

Chemistry:

\[
\begin{array}{l|c}
\text{Component} & \text{mol.\%} \\
\hline
\text{Al}_2\text{O}_3 & 29.13 \\
\text{CaO} & 2.78 \\
\text{SrO} & 24.36 \\
\hline
\text{Total} & \end{array}
\]

(1) Francon quarry, Canada; by electron microprobe, averages of three partial analyses; presence of \(\text{H}_2\text{O}\) and \((\text{OH})_1^{-}\) confirmed by IR; corresponds to \((\text{Sr, Ca})_{1.00}\text{Al}_{2.00}(\text{CO}_3)_2(\text{OH})_4\cdot\text{H}_2\text{O}\).

Occurrence: As a rare crystalline coating in vugs in a silicocarbonatite sill.

Association: Quartz, weloganite, dawsonite, montroyalite.

Distribution: From the Francon quarry, Montreal Island, Montreal, Quebec, Canada.

Name: As the strontium analog of dresserite.

Type Material: Canadian Geological Survey, Ottawa, 13704; Royal Ontario Museum, Toronto, Canada, M34626, M34627.


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