**Strontianite**

**SrCO₃**

**Crystal Data:** Orthorhombic.  
Point Group: 2/m 2/m 2/m. Crystals typically short to long prismatic, may be acicular, elongated along [001], pseudohexagonal, to 8 cm; columnar, fibrous, rounded, granular, powdery, massive.  
Twinning: On {110}, contact or less commonly penetration twins, repeated to give trillings, fourlings; may be polysynthetic.

**Physical Properties:**  
Cleavage: On {110}, nearly perfect; on {021}, poor; on {010}, interrupted.  
Fracture: Uneven to subconchoidal.  
Tendency: Brittle.  
Hardness = 3.5  
D(meas.) = 3.76(2)  
D(calc.) = 3.780  
May be thermoluminescent; fluorescent under UV, cathodoluminescent under X-rays and electron beams.

**Optical Properties:**  
Transparent to translucent.  
Color: Colorless, gray, pale yellow, pale green, yellowish brown, pale red, may be longitudinally zoned; colorless in transmitted light.  
Luster: Vitreous, resinous on breaks.  
Optical Class: Biaxial (~).  
Orientation: X = c; Y = b; Z = a.  
Dispersion: r < v, weak.  
α = 1.517  
β = 1.663  
γ = 1.667  
2V(meas.) = n.d.  
2V(calc.) = 7°07'

**Cell Data:**  
Space Group: Pmcn.  
a = 5.1059(7)  
b = 8.4207(13)  
c = 6.0319(11)  
Z = 4

**X-ray Powder Pattern:** Synthetic.  
3.535 (100), 3.450 (70), 2.0526 (50), 2.458 (40), 1.9053 (35), 2.481 (34), 2.4511 (33)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂</td>
<td>30.35</td>
<td>29.81</td>
</tr>
<tr>
<td>CaO</td>
<td>2.70</td>
<td></td>
</tr>
<tr>
<td>SrO</td>
<td>66.31</td>
<td>70.19</td>
</tr>
<tr>
<td>BaO</td>
<td>0.17</td>
<td></td>
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<tr>
<td>Total</td>
<td>99.53</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Strontian, Scotland.  (2) SrCO₃.

**Mineral Group:** Aragonite group.

**Occurrence:** An uncommon low-temperature hydrothermal mineral formed in veins in limestone, marl, and chalk; in geodes and concretions; rarely occurs in hydrothermal metallic veins; common in carbonatites.

**Association:** Barite, calcite, celestine, harmotome, sulfur.

**Distribution:** Dozens of known localities, nearly all in minor amounts. From Strontian, Argyll, Scotland. In Germany, from Clausthal and Bad Grund, Harz Mountains; at Brüttendorf, near Freiberg, Saxony; in the Lützow mine, Könnitz, Thuringia; commercial deposits at Drensteinfurt, near Hamm, Westphalia; in the Dreislar mine, near Medebach, with fine crystals from Aschberg, Beckum, North Rhine-Westphalia. In Austria, large crystals from Oberdorf, Styria, and at Leogang, Salzburg; from Brixlegg, Tirol. From Nepean Township, Ontario, Canada. In the USA, on the Strontium Hills, 16 km north of Barstow, San Bernardino Co., California; in the Homestake mine, Lead, Lawrence Co., South Dakota; in Illinois, at a number of mines around Rosiclare, as the Minerva #1 mine, Cave-in-Rock, Hardin Co., Illinois; in the Winfield quarry, Union Co., Pennsylvania. From the Sierra Mojada district, Coahula, Mexico. In the Kovdor, Sallanlatvi, and Vouriyärvi carbonatites, and the Khibiny and Lovozero massifs, Kola Peninsula, Russia.

**Name:** For Strontian, Scotland, source of the first specimens.

**References:**  
(4) (1953) NBS Circ, 539, v. 3.

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