Miargyrite \( \text{AgSbS}_2 \)

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Crystal Data: Monoclinic. Point Group: \( 2/m \). Commonly as thick crystals, to 1 cm, tabular on \( \{001\} \), \( \{100\} \), or \( \{0\overline{1}1\} \); striations || \( \{010\} \) and \( \{0\overline{1}1\} \); massive. Twinning: Polysynthetic twinning observed in polished section.

Physical Properties: Cleavage: Imperfect on \( \{010\} \); rare on \( \{100\} \) and \( \{101\} \). Fracture: Subconchoidal. Hardness = 2.5 \( \text{VHN} = \text{n.d.} \) \( \text{D(meas.)} = 5.25 \) \( \text{D(calc.)} = 5.29 \)


Optical Class: Biaxial (+). Pleochroism: In reflected light, distinct, in whites and pale grays. \( \beta > 2.72 \) (Li). Anisotropism: Strong.

\[
\begin{align*}
R_1 & \sim R_2: \\
(400) & 38.0-41.5, (420) 37.2-40.4, (440) 36.3-39.2, (460) 35.4-38.4, (480) 34.6-37.5, (500) 33.8-36.6, (520) 32.9-35.8, (540) 32.0-34.9, (560) 31.2-34.1, (580) 30.4-33.2, (600) 29.7-32.4, (620) 29.0-31.5, (640) 28.3-30.7, (660) 27.6-29.9, (680) 27.0-29.3, (700) 26.6-28.9
\end{align*}
\]

Cell Data: Space Group: \( C2/c \). \( a = 12.862(3) \) \( b = 4.409(1) \) \( c = 13.218(3) \) \( \beta = 98.48(2)^\circ \) \( Z = 8 \)

X-ray Powder Pattern: Synthetic.

2.892 (100), 3.440 (80), 2.748 (70), 2.013 (40), 3.186 (30), 3.101 (30), 1.791 (25)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
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</thead>
<tbody>
<tr>
<td>Ag</td>
<td>37.06</td>
<td>36.71</td>
<td>36.72</td>
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<tr>
<td>Fe</td>
<td>trace</td>
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<td></td>
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<tr>
<td>Sb</td>
<td>41.13</td>
<td>41.15</td>
<td>41.45</td>
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<tr>
<td>As</td>
<td>0.79</td>
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<td></td>
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<tr>
<td>S</td>
<td>21.50</td>
<td>21.68</td>
<td>21.83</td>
</tr>
<tr>
<td>Total</td>
<td>100.48</td>
<td>99.54</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) St. Andreasberg, Germany. (2) Příbram, Czech Republic. (3) AgSbS\(_2\).

Polymorphism & Series: Trimorphous with cuboargyrite and baumstarkite.

Occurrence: In hydrothermal veins of low-temperature origin.

Association: Baumstarkite, proustite, pyrargyrite, polybasite, silver, galena, sphalerite, pyrite, quartz, calcite, barite.

Distribution: In small amounts in many mines, rarely a principal ore mineral. In Germany, from Braünisdorf, near Freiberg, Saxony [TL]; at St. Andreasberg and Clausthal, in the Harz Mountains; and many other localities. From Příbram and Trebsko, Czech Republic. At Baia Sprie, Romania (formerly Felsőbanya, Hungary). From Hiendelaencina, Guadalajara Province, Spain. In the Strezhen deposit, Altai Mountains, Russia. At the Rampura-Agucha deposits, Rajasthan, India. In the Ailaoshan metamorphic belt, Yunnan Province, China. From the Van Silver mine, Brandywine Creek, British Columbia, Canada. In the USA, in Idaho, from the Silver City and Flint districts, Owyhee Co.; at the Kelly, Coyote and Santa Fe mines, in the Randsburg district, San Bernardino Co., California. In Mexico, from Catorce, San Luis Potosí; and from Sombrerete and Veta Grande, Zacatecas. In Chile, from Tres Puntas, near Copiapó, and Huantajaya, Tarapacá. At Colquechaca and Cerro Rico, Potosí, and Pulcayo, Huanchaca, Bolivia. From Huancavilca and Julcani, Peru.

Name: From the Greek for less and silver, as it contains less silver than other red silver sulfosalt minerals.