Hocartite $\text{Ag}_2(\text{Fe, Zn})\text{SnS}_4$

Crystal Data: Tetragonal. Point Group: $\overline{4}2m$. As grains, to less than 1 mm in diameter, and intergrowths. Twinning: Polysynthetic twinning, common.


Cell Data: Space Group: $\overline{4}2m$. $a = 5.74$, $c = 10.96$, $Z = 2$

X-ray Powder Pattern: Tacama, Bolivia. 3.26 (100), 1.98 (80), 1.72 (70), 2.03 (50), 2.87 (40), 2.74 (30), 1.666 (30)

Chemistry:

<table>
<thead>
<tr>
<th>Element</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag</td>
<td>36.0</td>
<td>42.3</td>
<td>41.61</td>
</tr>
<tr>
<td>Fe</td>
<td>7.6</td>
<td>10.0</td>
<td>10.77</td>
</tr>
<tr>
<td>Zn</td>
<td>4.2</td>
<td>1.8</td>
<td>0.2</td>
</tr>
<tr>
<td>Cu</td>
<td></td>
<td>25.0</td>
<td>23.4</td>
</tr>
<tr>
<td>Sn</td>
<td></td>
<td>26.0</td>
<td>24.0</td>
</tr>
</tbody>
</table>

Total 100.6 99.9 100.00

Polymorphism & Series: Forms a series with pirquitasite.

Mineral Group: Stannite group.

Occurrence: Of relatively high-temperature origin, typically in hydrothermal tin-bearing deposits.

Association: Cassiterite, cylindrite, franckeite, suredaite, stannite, canfieldite, tetrahedrite, pyrargyrite, silver, sphalerite, wurtzite, siderite, fluorite.

Distribution: In Bolivia, from Tacama [TL], Hocaya, Colquechaca, Potosí, and Chocaya. In the Pirquitas deposit, Riconada Department, Jujuy Province, Argentina. At Fournial, Cantal, France [TL]. From the Himmelsfürst mine, Erbisdorf, near Freiberg, Saxony, Germany. In the Chat-Karagai tin deposit, Tallas Alatan, Russia. At the Huangshaping Pb-Zn deposit, Giuyang, Hunan Province, China. From the Toyoha mine, Hokkaido, Japan. In the USA, at Bisbee, Cochise Co., Arizona, and in the Dean mine, southeast of Battle Mountain, Lewis district, Lander Co., Nevada.

Name: Honors Raymond Hocart (1896–1983), Professor of Mineralogy, University of Paris, Paris, France.

Type Material: National School of Mines, Paris, France.


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