**Lautite**

**Crystal Data:** Orthorhombic. *Point Group:* mm2. As crystals, short to long prismatic [100], to 2.3 cm, and tabular [001]; striated on {001} parallel to [100]. May also be massive, fine granular or radiating. *Twinning:* On {110}.

**Physical Properties:** *Cleavage:* {001}. *Tenacity:* Brittle. Hardness = 3–3.5 VHN = 239–259 (100 g load). D(meas.) = 4.91 D(calc.) = 4.878


R₁–R₂: (400) 34.2–36.6, (420) 33.6–35.8, (440) 33.0–35.0, (460) 32.1–33.9, (480) 31.5–33.1, (500) 30.9–32.5, (520) 30.6–31.9, (540) 30.5–31.4, (560) 30.6–31.0, (580) 30.6–30.8, (600) 30.8–30.8, (620) 31.0–31.1, (640) 31.5–31.4, (660) 31.8–31.4, (680) 31.9–31.2, (700) 31.6–31.0

**Cell Data:** *Space Group:* Pnma. *a* = 11.350 *b* = 5.456 *c* = 3.749 *Z* = 4

**X-ray Powder Pattern:** Lauta, Germany. 3.10 (100), 1.903 (80), 1.610 (60), 1.232 (50), 1.095 (50), 1.030 (50), 1.797 (40)

**Chemistry:**

<table>
<thead>
<tr>
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<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
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</thead>
<tbody>
<tr>
<td>Cu</td>
<td>36.10</td>
<td>37.6</td>
<td>37.28</td>
</tr>
<tr>
<td>As</td>
<td>45.66</td>
<td>43.5</td>
<td>43.92</td>
</tr>
<tr>
<td>S</td>
<td>17.88</td>
<td>18.8</td>
<td>18.80</td>
</tr>
</tbody>
</table>

Total 99.64 99.9 100.00

(1) Lauta, Germany. (2) Do.; by electron microprobe. (3) CuAsS.

**Occurrence:** In hydrothermal veins formed at medium temperatures.

**Association:** Arsenic, tennantite, proustite, chalcopyrite, galena, barite (Lauta, Germany); kutinaite, paxite (Niederbeerbach, Germany); arsenic, bismuth, tennantite, löllingite, rammelsbergite, proustite, quartz (Gabe Gottes mine, France).

**Distribution:** In Germany, from Lauta, near Marienberg, Saxony [TL]; and at Mühltal, Niederbeerbach, Odenwald, Hesse. In the Gabe-Gottes mine, Rauenthal, near Sainte-Marie-aux-Mines, Haut-Rhin, France. From Turț, Romania. At the Laerma Au–Cu–U deposit, Sichuan Province, China.

**Name:** For the Lauta, Germany occurrence.

**Type Material:** Mining Academy, Freiberg, Germany, 44485.