Taimyrite

Crystal Data: Orthorhombic. Point Group: n.d. As rounded grains, to 3 mm, and as veinlets; in zoned aggregates with other species. Twinning: Most grains show polysynthetic twinning.


R1–R2: (400) 33.0–37.1, (430) 37.8–41.2, (460) 39.6–42.3, (490) 42.3–45.2, (520) 44.0–47.8, (550) 45.5–49.6, (580) 47.4–51.6, (610) 49.7–54.0, (640) 51.4–56.5, (670) 53.0–59.2, (700) 54.0–61.9

Cell Data: Space Group: n.d. a = 16.11(2) or 12.57(2) b = 11.27(1) or 13.40(2) c = 8.64(1) or 17.09(2) Z = n.d.

X-ray Powder Pattern: Majak mine, Russia. 2.155 (100), 2.29 (55), 2.365 (40), 1.44 (40)

Chemistry: (1) (2)

<table>
<thead>
<tr>
<th></th>
<th>Pd</th>
<th>Cu</th>
<th>Pt</th>
<th>Sn</th>
<th>Pb</th>
<th>Sb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>46.9</td>
<td>10.3</td>
<td>15.4</td>
<td>23.8</td>
<td>0.0</td>
<td>2.5</td>
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<tr>
<td></td>
<td>46.02</td>
<td>11.85</td>
<td>14.44</td>
<td>24.77</td>
<td>1.01</td>
<td>1.86</td>
</tr>
</tbody>
</table>

Total 98.9 99.95

(1) Majak mine, Russia; by electron microprobe, corresponds to (Pd1.95Cu0.72Pt0.35)Σ=3.02 (Sn0.89Sb0.09)Σ=0.98. (2) Oktyabr mine, Russia; by electron microprobe, corresponding to (Pd1.88Cu0.81Pt0.32)Σ=3.01(Sn0.90Sb0.07Pb0.02)Σ=0.99.

Occurrence: As grains and veinlets near the contact between sulfide and rock-forming minerals in gabbro-diabase; in massive sulfide ores.

Association: Au–Ag alloys, polarite, sperrylite, freodite, sobolevskite, atokite, rustenburgite, tatyanaite, mooihoekite, talnakhite, chalcopyrite, pentlandite, cubanite, pyrrhotite, galena, sphalerite (Talnakh area, Russia).

Distribution: In Russia, from the Majak [TL] and Oktyabr mines, Talnakh area, Noril’sk region, Taimyr Peninsula, western Siberia. In the Loolekop carbonatite, Phalaborwa, Transvaal, South Africa.

Name: For the type locality on the Taimyr Peninsula, Russia.

Type Material: Mineralogical Museum of the Moscow Geological Prospecting Institute; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 81390.


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