Rustenburgite

Cubic. Point Group: 4/m 3 2/m. As grains, rarely showing {001}, to 100 µm, and as droplike inclusions.

Physical Properties: Hardness = n.d. VHN = 365 (25 g load). D(meas.) = n.d. D(calc.) = 15.08


Cell Data: Space Group: Fm3m (probable) or Pm3m. a = 3.991 Z = 4

X-ray Powder Pattern: Merensky Reef, South Africa. 2.295 (100), 1.202 (100), 1.408 (90), 0.9153 (90), 0.8145 (90), 1.992 (80), 0.8922 (80)

Chemistry:

<table>
<thead>
<tr>
<th>Element</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt</td>
<td>53.44</td>
</tr>
<tr>
<td>Pd</td>
<td>28.28</td>
</tr>
<tr>
<td>Sn</td>
<td>17.70</td>
</tr>
<tr>
<td>Total</td>
<td>99.42</td>
</tr>
</tbody>
</table>

(1) Merensky Reef, South Africa; by electron microprobe, corresponding to (Pt₁.₅₂Pd₁.₄₈)Σ=3.₀₀Sn₀.₈₃.

Polymorphism & Series: Forms a series with atokite.

Occurrence: As very sparse grains in concentrates (Merensky Reef, South Africa).

Association: Atokite, unspecified platinum tellurides (Merensky Reef, South Africa); moncheite, pyrrhotite, pentlandite (Stillwater complex, Montana, USA).

Distribution: In the Rustenburg [TL], Atok, and Onverwacht mines, on the Merensky Reef, Bushveld complex, Transvaal, South Africa. From the Upper Banded Zone of the Stillwater complex, Montana, USA. In Russia, at Noril’sk, western Siberia; from the Ioko-Dovyren ultramafic pluton, northern Baikal district, eastern Siberia.

Name: For its occurrence in the Rustenburg mine, South Africa.

Type Material: n.d.