Plumboselite  \( \text{Pb}_3\text{O}_2(\text{SeO}_3) \)

**Crystal Data:** Orthorhombic.  \( \text{Point Group: mm}2 \). In subparallel to divergent clusters of fibers elongated parallel to [001] and flattened on {010}, to 0.3 mm.

**Physical Properties:**  \( \text{Cleavage: None observed. Fracture: n.d. Tenacity: Brittle.} \)

- Hardness = 2-3
- \( \text{D(meas.) = n.d.} \)
- \( \text{D(calc.) = 7.814} \)

**Optical Properties:** Transparent.  \( \text{Color: Colorless. Streak: White.} \)

- \( \text{Luster: Dull to adamantine.} \)
- \( \text{Optical Class: Biaxial. Orientation: X} = c. \quad n = 2.115 \quad [\text{Gladstone-Dale relationship}]. \)

**Cell Data:**  \( \text{Space Group: Cmc}_{21}. \)

- \( a = 10.5384(11) \)
- \( b = 10.7452(13) \)
- \( c = 5.7577(7) \)
- \( Z = 4 \)

**X-ray Powder Pattern:** Tsumeb mine, Namibia.

- 3.155 (100), 1.956 (26), 2.886 (22), 1.713 (21), 2.691 (17), 1.2711 (17), 1.8864 (13)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{CaO} )</td>
<td>0.09</td>
<td>-</td>
</tr>
<tr>
<td>( \text{PbO} )</td>
<td>84.92</td>
<td>85.78</td>
</tr>
<tr>
<td>( \text{SeO}_2 )</td>
<td>14.95</td>
<td>14.22</td>
</tr>
<tr>
<td>Total</td>
<td>99.96</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Tsumeb mine, Namibia; average of 7 electron microprobe analyses, corresponding to \( \text{Pb}_{2.92}\text{Ca}_{0.01}\text{Se}_{1.03}\text{O}_5 \).  (2) \( \text{Pb}_3\text{O}_2(\text{SeO}_3) \).

**Occurrence:** A secondary mineral in the oxidized zone of a polymetallic sulfide deposit.

**Association:** Clausthalite, smithsonite, mimetite, vaterite.

**Distribution:** From the Tsumeb mine, Otjikoto Region, Namibia.

**Name:** For the mineral’s essential chemical composition, \( \text{plumbo} \) (for lead) and \( \text{sel} \) (for selenite).

**Type Material:** Mineral Sciences Department, Natural History Museum of Los Angeles County, California, USA (63264).

**References:**