Asisite

Crystal Data: Tetragonal.  

Point Group: 4/m 2/m 2/m.  

Platy, to about 0.5 mm.

Physical Properties: Cleavage: Perfect on {001}.  

Hardness = n.d.  

VHN = 146-186 (50 g load).  

D(meas.) = n.d.  

D(calc.) = 8.041

Optical Properties: Transparent.  

Color: Yellow to yellow-green.  

Streak: Light yellow to white.  

Luster: Adamantine.

Optical Class: Uniaxial (-).  

ω = 2.39  

ε = 2.32  

Anisotropism: Weak in oil, gray; not noticeable in air.


a = 3.897(2)  

c = 22.81(2)  

Z = 1

A tetragonal supercell of 14×14×23 Å, is created by strong ordering of Si within the PbO sheet structure, yielding Pb₁₂(SiO₄)O₈Cl₄ with Z = 8.

X-ray Powder Pattern: Kombat mine, Namibia.

2.957 (100), 2.752 (60), 1.627 (60), 1.602 (50), 3.46 (40), 1.984 (40), 1.747 (40)

Chemistry:

<table>
<thead>
<tr>
<th>Element</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SiO₂</td>
<td>2.0</td>
</tr>
<tr>
<td>PbO</td>
<td>93.7</td>
</tr>
<tr>
<td>Cl</td>
<td>4.4</td>
</tr>
<tr>
<td>-O = Cl₂</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>99.1</td>
</tr>
</tbody>
</table>

(1) Kombat mine, Namibia; by electron microprobe, average of three analyses, corresponding to Pb₇SiO₈Cl₂.

Occurrence: In manganese silicate lenses nearby a sulfide ore body.

Association: Hematophanite, barite, jacobsite, hematite, copper, molybdophyllite, chlorite.

Distribution: In the Kombat mine, 49 km south of Tsumeb, Namibia.

Name: For the Asis Farm, location of the Kombat mine, which in the Nama language means drinking place.
