Mendipite Pb₃O₂Cl₂

Crystal Data: Orthorhombic. Point Group: 222. In columnar or fibrous aggregates, and cleavable masses, to 12 cm.

Physical Properties: Cleavage: {010}, perfect; {100} and {010}, less perfect. Fracture: Conchoidal to uneven. Hardness = 2.5 D(meas.) = 7.240 D(calc.) = 7.22

Optical Properties: Translucent, rarely transparent. Color: Colorless to white, brownish cream, gray, tinged yellow, pink, red, or blue; nearly colorless in transmitted light. Streak: White. Luster: Pearly to silky on cleavages; resinous to adamantine on fractures. Optical Class: Biaxial (+). Orientation: X = a; Y = b; Z = c. Dispersion: r < v, very strong, α = 2.24(2) β = 2.27(2) γ = 2.31(2) 2V(meas.) = ~90°

Cell Data: Space Group: P₂₁2₁2₁. a = 9.52 b = 11.95 c = 5.87 Z = 4

2.78 (10), 2.64 (9), 3.04 (8), 3.51 (7), 7.40 (6), 3.78 (6), 3.08 (6)

Chemistry:

<table>
<thead>
<tr>
<th>Element</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
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<tbody>
<tr>
<td>Pb</td>
<td>85.87</td>
<td>85.69</td>
<td>85.79</td>
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<tr>
<td>O</td>
<td>4.53</td>
<td>[4.44]</td>
<td>4.42</td>
</tr>
<tr>
<td>Cl</td>
<td>9.35</td>
<td>9.87</td>
<td>9.79</td>
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<tr>
<td>Total</td>
<td>99.75</td>
<td>[100.00]</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Mendip Hills, England; corresponds to Pb₃.1₄Cl₂O₂.₁₅. (2) Kunibert mine, near Brilon, Germany. (3) Pb₃O₂Cl₂.

Occurrence: In nodules in manganese oxide ores (Somerset, England).

Association: Hydrocerussite, cerussite, malachite, pyromorphite, calcite, chloroxiphite, diaboleite, parkinsonite (Somerset, England).

Distribution: In England, from the Higher Pitts Farm, the Priddy Hill Farm, the Wesley mine, and near Churchill, Mendip Hills, and in the Merewheat quarry, near Shepton Mallet, Somerset. In the Kunibert mine, near Brilon, North Rhein-Westphalia, Germany. At Långban, Värmland, Sweden. From Tarnowitz, Silesia, Poland. From Laurium, Greece, in slag. Found in the Elura Zn–Pb–Ag deposit, 43 km northeast of Cobar, New South Wales, Australia.


Type Material: Swedish Academy of Sciences, Stockholm, Sweden.