Eglestonite

\[ \text{Hg}_6^{1+}\text{HCl}_3\text{O}_2 \]

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Crystal Data: Cubic. Point Group: 4/m 3 2/m. As dodecahedra, octahedra, or cubes, complexly modified by \{112\}, \{116\}, \{223\}, \{123\}, many others; may be acicular to filiform by elongation on [001]. Commonly as granular aggregates or massive crusts and films.


D(meas.) = 8.309–8.45 D(calc.) = 8.652

Optical Properties: Translucent. Color: Yellow, yellow-orange, light brownish yellow to dark brown or black with exposure to light; yellowish brown to brown in transmitted light. Streak: Yellow or greenish yellow, rapidly becoming black. Luster: Brilliant adamantine to resinous.

Optical Class: Isotropic, occasionally weakly anisotropic. \( n = 2.49(2) \)

Cell Data: Space Group: Ia\( \overline{3} \)d. \( a = 16.036 \) \( Z = 16 \)

X-ray Powder Pattern: Terlingua, Texas, USA.
3.273 (100), 1.890 (57), 2.536 (47), 4.009 (36), 1.709 (14), 2.315 (11), 1.336 (9)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hg</td>
<td>89.00</td>
<td>89.90</td>
<td>89.62</td>
</tr>
<tr>
<td>O</td>
<td>1.79</td>
<td>1.79</td>
<td></td>
</tr>
<tr>
<td>Cl</td>
<td>8.22</td>
<td>7.79</td>
<td>7.92</td>
</tr>
<tr>
<td>Br</td>
<td>0.13</td>
<td></td>
<td></td>
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<tr>
<td>( \text{H}_2\text{O} )</td>
<td></td>
<td>0.67</td>
<td></td>
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</tbody>
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(1) Terlingua, Texas, USA; average of three analyses. (2) Arzak deposit, Russia; by electron microprobe, average of five analyses. (3) \( \text{Hg}_6\text{HCl}_3\text{O}_2 \).

Polymorphism & Series: Forms a series with kadyrelite.

Occurrence: An oxidation product of other mercury minerals in mercury deposits.

Association: Calomel, mercury, terlinguaite, montroydite, calcite (Terlingua, Texas, USA); cinnabar, mercury, calomel (San Mateo Co., California, USA); lavrentievite, calomel, mercury, kadyrelite (Kadyrel deposit, Russia).

Distribution: In the USA, at Terlingua, Brewster Co., Texas; around Crawford and Jackfork, Pike Co., Arkansas; in the McDermitt and Cordero mercury mines, Opalite district, and at the Cahill mine, Poverty Peak district, Humboldt Co., Nevada; from the Denio district, Harney Co., Oregon. In California, near the New Idria mine, San Benito Co.; in the Challenge deposit, near Emerald Lake, southwest of Redwood City, San Mateo Co.; in the Kings mine, Parkfield district, Kings Co.; and at the Socrates mine, Sonoma Co. At Hualuaxtla, Guerrero, and Guadalcazar, San Luis Potosi, Mexico. From South Africa, in the Monarch cinnabar mine, Transvaal. At Landsberg, near Oberschmil, Rhineland-Palatinate, Germany. In Russia, from Siberia, in the Arzak and Kadyrel deposits, Tuva, and the Kelyan Sb–Hg deposit, Buryatia; in the Aktash mercury deposit, Kosh-Agach district, Kurai Range, Altai Mountains. From Khaydarkan, Fergana Valley, Alai Range, Kyrgyzstan. In the Ruziobnok deposit, central Tajikistan. Several other localities are known.

Name: Honors Thomas Egleston (1832–1900), Professor of Mineralogy and Metallurgy, Columbia University, New York City, New York, USA.


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