Terlinguaite Hg_2OCl

Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals, exhibiting a multitude of forms, are commonly equant, may be elongated along [010], flattened on {001} or rarely thick tabular on {001}; in aggregates of crystals, powdery, massive.

Physical Properties: *Cleavage:* $\{\bar{1}01\}$, perfect. *Tenacity:* Brittle. Hardness = 2.5
D(meas.) = 9.22 D(calc.) = 9.35

Optical Properties: Transparent to translucent. *Color:* Sulfur-yellow, greenish yellow, brown; turns olive-green on exposure to light; pale olive-green in transmitted light.
Streak: Lemon-yellow, turning olive-green. *Luster:* Brilliant adamantine.
Optical Class: Biaxial (–). *Pleochroism:* Slight; green to yellow. *Orientation:* OAP $\parallel b$ and inclined –7° to c. *Dispersion:* $r < v$, extreme. $\alpha = 2.35(2)$ $\beta = 2.64(2)$ $\gamma = 2.66(2)$
2V(meas.) = 20(2)°

Cell Data: *Space Group:* $C2/c$ (synthetic). $a = 11.953(4)$ $b = 5.904(3)$ $c = 9.466(4)$
$\beta = 105.59(6)°$ Z = 4

X-ray Powder Pattern: Synthetic. (ICDD 25-559).
2.505 (100), 5.76 (80), 4.17 (80), 3.28 (80), 2,815 (80), 2.596 (80), 4.34 (60)

Chemistry:

	(1)	(2)	(3)
Hg	88.24	88.61	88.63
O	3.47	3.75	3.54
Cl	7.89	7.83	7.83
Total	99.60	100.19	100.00

(1–2) Terlingua, Texas, USA; each value is an average of several analyses. (3) Hg_2OCl.

Occurrence: A rare secondary mineral in hydrothermal mercury deposits.

Association: Cinnabar, metacinnabar, eglestonite, kleinite, montroydite, calomel, mercury.

Distribution: In the USA, from Terlingua, Brewster Co., Texas; in the McDermitt mercury mine, Opalite district, and from the Cahill mine, Poverty Peak district, Humboldt Co., Nevada; at the Kings mine, Parkfield district, Kings Co., and the Nepper and Clear Creek mines, New Idria district, San Benito Co., California. In Mexico, from Huahuaxtla, Guerrero; Pedernales, Chihuahua; and Guadalćazar, San Luis Potosi. At Landsberg, near Obermoschel, Rhineland-Palatinate, Germany. From Khaydarkan, Fergana Valley, Alai Range, Kyrgyzstan. A few other minor or poorly-defined localities are known.

Name: For its occurrence at Terlingua, Texas, USA.

Type Material: n.d.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 52–56. (2) Aurivillius, K. and L. Folkmarson (1968) The crystal structure of terlinguaite, $Hg_4O_2Cl_2$. Acta Chem. Scand., 22, 2529–2540. (3) Broderson, K., G. Göbel, and G. Liehr (1989) Terlinguait $Hg_4O_2Cl_2$ – ein Mineral mit ungewöhnlichen Hg_3−Baueinheiten. Zeitschrift für anorganische und allgemeine Chemie, 575, 145–153 (in German with English abs.).