Poyarkovite Hg_3ClO

Crystal Data: Monoclinic. *Point Group:* $2/m$, m, or 2. Granular, porous to dense, to 1 mm. *Twinning:* Frequently observed under the microscope.

Physical Properties: *Fracture:* Irregular to conchoidal. *Tenacity:* Very brittle. Hardness = 2–2.5 VHN = 173–201, 188 average (20 g load). D(meas.) = 9.80 (dense granular). D(calc.) = 9.88

Optical Properties: Translucent. *Color:* Deep raspberry-red to cherry-red, turns black on exposure; deep red or brownish red in transmitted light; white in reflected light. *Streak:* Red. *Luster:* Vitreous to adamantine.
Optical Class: Biaxial. *Pleochroism:* Slight. $n = > 2.0$ 2V(meas.) = n.d.
Anisotropism: Strong; azure to blue.
R_1–R_2: (440) 25.0–31.0, (460) 24.5–31.0, (480) 22.5–31.0, (500) 22.5–30.0, (520) 22.2–29.2, (540) 22.0–28.4, (560) 21.6–27.2, (580) 20.9–25.5, (600) 20.0–23.5, (620) 18.5–22.1, (640) 17.0–20.7

Cell Data: *Space Group:* $C2/m$, $C2/c$, Cm, Cc, or $C2$. $a = 18.82$ $b = 9.02$ $c = 16.79$ $\beta = 112°24'$ $Z = 24$

X-ray Powder Pattern: Khaydarkan, Kyrgyzstan.
2.83 (10), 2.74 (8), 1.799 (6.5), 2.60 (6), 3.09 (5), 2.96 (4), 1.883 (4)

Chemistry:

	(1)	(2)
Hg	91.30	92.12
O	2.36	2.45
Cl	5.30	5.43
Total	98.96	100.00

(1) Khaydarkan, Kyrgyzstan; by electron microprobe, average of ten analyses; corresponds to $Hg_{3.03}Cl_{1.00}O_{0.99}$. (2) Hg_3ClO.

Occurrence: In an oxidized mercury deposit.

Association: Eglestonite, calomel, terlinguaite, montroydite, kuznetsovite, shakhovite, chursinite, corderoite, mercury, cinnabar, livingstonite.

Distribution: In the Khaydarkan mercury deposit, Fergana Valley, Alai Range, south Kyrgyzstan.

Name: Honors Vladimir Erastovich Poyarkov (1907–1975), Institute of Mineral Resources, Alma-Ata, Kyrgyzstan, investigator of mercury deposits, one of the first discoverers of the Khaydarkan deposit.

Type Material: Central Siberian Geological Museum, Siberian Division, Academy of Sciences, Novosibirsk, Russia.

References: (1) Vasil'ev, V.I., Y.G. Lavrent'ev, and N.A. Pal'chik (1981) Poyarkovite – Hg_3ClO –a new natural mercury oxyhalide. Zap. Vses. Mineral. Obshch., 110, 501–506 (in Russian). (2) (1982) Amer. Mineral., 67, 860 (abs. ref. 1). (3) (1982) Mineral. Abs., 33, 170 (abs. ref. 1).