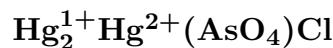


Kuznetsovite

©2001-2005 Mineral Data Publishing, version 1

Crystal Data: Cubic. *Point Group:* 23. As grains, to 1 mm.

Physical Properties: *Fracture:* Uneven to conchoidal. *Tenacity:* Brittle. *Hardness* = 2.5–3
 $D(\text{meas.}) = 8.64\text{--}8.82$ $D(\text{calc.}) = 8.691$

Optical Properties: Semitransparent. *Color:* Pale brown to honey-yellow, darkening on exposure to light; in reflected light, pale brown internal reflections. *Streak:* Yellow-orange. *Luster:* Vitreous to adamantine.

Optical Class: Isotropic. $n =$ High.

R: (460) 17.6, (546) 16.9, (590) 16.2

Cell Data: *Space Group:* $P2_13$. $a = 8.4013(2)$ Z = 4

X-ray Powder Pattern: Arzak deposit, Russia.

2.53 (10), 2.81 (7), 4.86 (6), 3.43 (6), 1.834 (6), 4.21 (5), 3.77 (5)

Chemistry:	(1)	(2)	(3)
Hg	77.62	77.97	77.53
As	8.75	8.87	9.65
Cl	4.50	4.55	4.57
O	8.97	9.33	8.25
Total	99.84	100.72	100.00

(1) Arzak deposit, Russia; by electron microprobe, average of seven grains; corresponding to $\text{Hg}_{3.08}\text{As}_{0.93}\text{O}_{4.48}\text{Cl}_{1.02}$. (2) Khaydarkan deposit, Kyrgyzstan; by electron microprobe, average of three grains; corresponding to $\text{Hg}_{3.03}\text{As}_{0.92}\text{O}_{4.54}\text{Cl}_{1.00}$. (3) $\text{Hg}_2^{1+}\text{Hg}^{2+}(\text{AsO}_4)\text{Cl}$.

Occurrence: In the oxidation zone of hydrothermal mercury deposits.

Association: Cinnabar, calomel, eglestonite, corderoite, mercury (Arzak deposit, Russia); cinnabar, calomel, eglestonite, corderoite, mercury, livingstonite, montroydite, shakhovite, chursinite (Khaydarkan deposit, Kyrgyzstan).

Distribution: In the Arzak mercury deposit, Pii-Khem district, Tuva, and the Kelyan Sb–Hg deposit, Buryatia, Siberia, Russia. From the Khaydarkan mercury deposit, Fergana Valley, Alai Range, Kyrgyzstan.

Name: Honors Academician Valerii Alekseevich Kuznetsov (1906–1985), Institute of Geology and Geophysics, Novosibirsk, Russia, student of mercury deposits.

Type Material: Central Siberian Geological Museum, Novosibirsk, Russia, VI-18/1; Mining Institute, St. Petersburg, 1122/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 81062.

References: (1) Vasil'ev, V.I. and Y.G. Lavrent'ev (1980) Kuznetsovite, $\text{Hg}_6\text{As}_2\text{Cl}_2\text{O}_9$, a new mercury mineral. Doklady Acad. Nauk SSSR, 255, 963–968 (in Russian). (2) (1981) Amer. Mineral., 66, 1100 (abs. ref. 1). (3) Solov'eva, L.P., S.V. Tsybulya, V.A. Zabolotnyi, and N.A. Pal'chik (1991) Determination and refinement of the structure of the mineral kuznetsovite from X-ray powder diffraction data. Kristallografiya (Sov. Phys. Crystal.), 36, 731–732.