

Crystal Data: Tetragonal. *Point Group:* $4/m\ 2/m\ 2m$. As elongated grains, to 0.5 mm; in aggregates and powdery masses.

Physical Properties: *Cleavage:* {100}, good. *Fracture:* Uneven. *Hardness* = ≤ 2
VHN = 21–29, 25 average (25 g load). *D(meas.)* = n.d. *D(calc.)* = [7.36]

Optical Properties: Transparent. *Color:* Colorless, white, creamy white, pale yellow, pale brownish, bluish gray; gray to pale gray in reflected light, with colorless to pale yellow internal reflections. *Streak:* White to gray. *Luster:* Adamantine.

Optical Class: Uniaxial (+); high birefringence. *Pleochroism:* Weak; light yellow to very pale brown. $n = > 2.00$ *Anisotropism:* Yellowish gray, grayish brown, and bluish gray.

Bireflectance: Strong.

R_1 – R_2 : n.d.

Cell Data: *Space Group:* $I4/mmm$. $a = 4.597(5)$ $c = 11.034(8)$ $Z = 4$

X-ray Powder Pattern: Kadyrel deposit, Russia.

3.25 (100), 4.26 (55), 2.103 (50), 2.76 (40), 1.989 (35), 2.296 (25b), 1.768 (20)

Chemistry:

	(1)
Hg	77.00
Cl	5.66
Br	16.60
Total	99.26

(1) Kadyrel deposit, Russia; by electron microprobe, average of four analyses; corresponds to $\text{Hg}_{1.02}(\text{Br}_{0.56}\text{Cl}_{0.42})_{\Sigma=0.98}$.

Polymorphism & Series: Forms a series with calomel.

Occurrence: In vugs in mercury sulfides, in calcite veins in a mercury ore deposit (Kadyrel deposit, Russia).

Association: Eglestonite, lavrentievite, kadyrelite, calomel, mercury, corderoite, cinnabar, iron oxides (Kadyrel deposit, Russia).

Distribution: From the Kadyrel mercury deposit, Pii-Khem district, Tuva, Siberia, Russia. At Landsberg, near Obermoschel, Rhineland-Palatinate, Germany.

Name: Honors Aleksei Mikhailovich Kuzmin (1891–1980), Russian mineralogist of the Tomsk Polytechnic Institute, Tomsk, Russia.

Type Material: Central Siberian Geological Museum, Siberian Division, Academy of Sciences, Novosibirsk, VI-28/1; Mining Institute, St. Petersburg, Russia, 1908/1–2.

References: (1) Vasil'ev, V.I., Y.G. Lavrent'ev, and N.A. Pal'chik (1986) Kuzminite – $\text{Hg}_2(\text{Br}, \text{Cl})_2$ – a new natural mercury halide. *Zap. Vses. Mineral. Obshch.*, 115, 595–598 (in Russian). (2) (1988) *Amer. Mineral.*, 73, 192 (abs. ref. 1). (3) (1988) *Mineral. Abs.*, 39, 122 (abs. ref. 1).