Auricupride Cu_3Au

Crystal Data: Cubic. *Point Group:* $4/m\ \overline{3}\ 2/m$. Massive, as rims less than 100 μm, irregular patches, and platy aggregations.

Physical Properties: Hardness = ~3.5 VHN = 54 (10 g load). D(meas.) = 11.5 D(calc.) = [13.77]

Optical Properties: Opaque. *Color:* Yellow with a reddish tint; in reflected light, violet-rose. *Luster:* Highly metallic.

R: n.d.

Cell Data: *Space Group:* $Pm3m$. a = 3.753(5) (synthetic). Z = [1]

X-ray Powder Pattern: n.d.

Chemistry:

	(1)	(2)
Au	53.11	50.82
Cu	45.96	49.18
Total	99.07	100.00

(1) Karabash deposit, Russia; by electron microprobe. (2) Cu_3Au.

Occurrence: In serpentinites as the product of low-temperature ordering and unmixing of Au–Cu solid solution alloys (Karabash deposit, Russia); in reduction halos in Permian red beds (near Zurich, Switzerland).

Association: Gold, copper, other Au–Cu alloys.

Distribution: In Russia, from the Karabash gold deposit, Soimon Valley, Southern Ural Mountains [TL] and at the Oktyabr mine, Talnakh area, Noril'sk region, western Siberia. From Laksia and Pefkos, Cyprus. Found northwest of Zurich, Switzerland. In the El Indio mine, El Indio-Tambo district, east of La Serena, Coquimbo, Chile.

Name: For the composition.

Type Material: n.d.

References: (1) Lozhechkin, M.P. (1939) New data on chemical composition of copper-bearing gold. Doklady Acad. Nauk SSSR, 24, 454–457 (in Russian) (2) Ramdohr, P. (1950) Auricuprid. Fortschr. Mineral., 28, 69 (in German). (3) Ramdohr, P. (1967) The wide-spread paragenesis of ore minerals originating during serpentinization (with some data on new and insufficiently described minerals). Geol. Rudn. Mestorozhd., 2, 32–43 (in Russian). (4) (1968) Amer. Mineral., 53, 350 (abs. ref. 3). (5) Novgorodova, M.I., A.I. Tsepin, A.I. Gorshkov, I.M. Kudrevich, and L.N. Vyal'sov (1977) New data on the crystal chemistry and properties of natural intermetallic compounds of the copper-gold system. Zap. Vses. Mineral. Obshch., 106, 540–552 (in Russian). (6) (1977) Chem. Abs., 87, 209755 (abs. ref. 5). (7) Novgorodova, M.I. and A.I. Tsepin (1976) Phase composition of cupriferous gold. Doklady Acad. Nauk SSSR, 227, 184–187 (in Russian). (8) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union. Ocean Pictures, Moscow, 32–33.