

Crystal Data: Hexagonal, pseudocubic. *Point Group:* 3. Rarely in crystals resembling trigonal pyramids, to 0.2 mm, which may be zoned with gruzdevite; as xenomorphic grains and granular aggregates.

Physical Properties: *Fracture:* Irregular to conchoidal. *Tenacity:* Brittle. Hardness = ~3.5 VHN = 300–346, 313 average (50 g load). D(meas.) = 5.5 D(calc.) = 5.72 Opaque. *Color:* Gray-black; white in reflected light. *Streak:* Black. *Luster:* Metallic. *Anisotropism:* Weak, in shades of blue. R₁–R₂: n.d.

Cell Data: *Space Group:* R3. *a* = 13.730(3) *c* = 9.329(1) *Z* = 3

X-ray Powder Pattern: Gal-Khaya deposit, Russia. 3.10 (10), 1.903 (10), 1.621 (10), 2.69 (7), 1.236 (4), 1.345 (3), 4.04 (2)

| Chemistry: | (1) | (2) | (3) |
|------------|--------|--------|--------|
| Cu | 23.38 | 23.2 | 22.86 |
| Zn | | 0.15 | |
| Hg | 32.54 | 35.4 | 36.09 |
| As | 18.20 | 18.9 | 17.97 |
| Sb | 2.55 | 0.41 | |
| S | 23.80 | 23.6 | 23.08 |
| Total | 100.47 | 101.66 | 100.00 |

(1) Aktash deposit, Russia; by electron microprobe, average of two analyses. (2) Gal-Khaya deposit, Russia; by electron microprobe. (3) Cu₆Hg₃As₄S₁₂.

Polymorphism & Series: Forms a series with gruzdevite.

Occurrence: Uncommon, of hydrothermal origin in complex polymetallic As–Hg-bearing deposits.

Association: Stibnite, chalcostibite, mercurian tetrahedrite, tennantite, luzonite, enargite, cinnabar, chalcopyrite, pyrite, sphalerite, realgar, orpiment, dickite, quartz, calcite.

Distribution: In Russia, from the Aktash mercury deposit, Kosh-Agach district, Kurai Range, Altai Mountains [TL]; in the Gal-Khaya deposit, Sakha; at the Lukhumi arsenic deposit, central Caucasus Mountains; from the Vorontsovskoye gold deposit, Serov district, Northern Ural Mountains. At the Chauvai Sb–Hg deposit, Fergana Valley, Alai Range, southern Kyrgyzstan. In the Moctezuma (Bambolla) mine, 12 km south of Moctezuma, Sonora, Mexico. At the Getchell mine, Potosi district, Humbolt Co., Nevada, USA. In the Hemlo gold deposit, Thunder Bay district, Ontario, Canada. From the Jas Roux deposit, 10 km east of Chappelle-en-Valgaudemar, Hautes-Alpes, France.

Name: For its occurrence at the Aktash deposit, Russia.

Type Material: Central Siberian Geological Museum, Novosibirsk, Russia, III-14/1; National School of Mines, Paris, France.

References: (1) Vasil'ev, V.I. (1968) New ore minerals of the mercury deposits of Gornyi Altai and their parageneses. In: Problems of the metallogeny of mercury. Izdat. "Nauka" Moscow, 111–129 (in Russian). (2) (1971) Amer. Mineral., 56, 358 (abs. ref. 1). (3) Gruzdev, V.S., N.M. Chernitsova, and N.G. Shumakove (1972) Aktashite, Cu₆Hg₃As₅S₁₂, new data. Doklady Acad. Nauk SSSR, 206, 694–697 (in Russian). (4) (1973) Amer. Mineral., 58, 562 (abs. ref. 3). (5) Kaplunnik, L.N., E.A. Pobedinskaya, and N.V. Belov (1980) Crystal structure of aktashite (Cu₆Hg₃As₄S₁₂). Doklady Acad. Nauk SSSR, 251, 96–98 (in Russian).

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