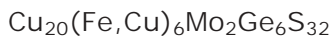


Maikainite



CUBIC

Locality: (1) Maikain deposit, Kazakhstan and (2) Tsumeb deposit, Namibia.

Occurrence: (1) In a gold-bearing massive-sulfide base-metal deposit. Associated minerals are: germanite, ovamboite, germanocolusite, sphalerite, bornite, tennantite, gallite, galena and barite. (2) In a germanium-bearing massive-sulfide base-metal deposit. Associated minerals are: ovamboite, germanite and germanocolusite.

General appearance: (1) Tiny (up to 45 μm) oval particles and rare crystals {111} and {110}. (2) Round segregations usually 3 to 40 μm across, but up to 150 μm .

Physical, chemical and crystallographic properties: *Luster:* metallic. *Diaphaneity:* opaque. *Color:* megascopic color not given. *Streak:* not given. *Hardness:* VHN₃₀ 275 to 345 (average 305) kg/mm². *Tenacity:* not given. *Cleavage:* absent. *Fracture:* not given. *Density:* could not be measured, 4.54 g/cm³ (calc.). **Crystallography:** Cubic, $P\bar{4}3n$ by analogy with the germanite group, a 10.64 \AA , V 1205 \AA^3 , $Z = 1$. Morphology: {111} and {110}. Twinning: none mentioned. **X-ray powder-diffraction data:** 3.07(10)(222), 2.66(2)(400), 1.884(8)(440), 1.603(4)(622), 1.331(1)(800), 1.220(2)(662), 1.190(1)(840). **Optical data:** In reflected light: bright yellow to grayish yellow, isotropic, no internal reflections. R: (23.7%) 470 nm, (25.5%) 546 nm, (25.7%) 589 nm, (25.6%) 650 nm. **Chemical analytical data:** Three sets of electron-microprobe data are given. The data corresponding to the material used to derive the unit-cell parameter are: Cu 42.55, Zn 0.56, Fe 6.35, As 2.28, Mo 5.21, W 1.24, S 31.40, V 0.12, Ge 10.86, Ga 0.15, Total 100.72 wt.%. Empirical formula: $(\text{Cu}_{21.91}\text{Fe}_{3.72}\text{Zn}_{0.28})_{\Sigma 25.91}(\text{Mo}_{1.78}\text{W}_{0.22}\text{V}_{0.08})_{\Sigma 2.08}(\text{Ge}_{4.90}\text{As}_{1.00}\text{Ga}_{0.07})_{\Sigma 5.97}\text{S}_{32.04}$. **Relationship to other species:** A member of the germanite group.

Name: Reflects the type locality.

Comments: IMA No. 1992-038.

SPIRIDONOV, E.M. (2003): Maikainite $\text{Cu}_{20}(\text{Fe,Cu})_6\text{Mo}_2\text{Ge}_6\text{S}_{32}$ and ovamboite $\text{Cu}_{20}(\text{Fe,Cu,Zn})_6\text{W}_2\text{Ge}_6\text{S}_{32}$: new minerals in massive sulfide base metal ores. *Doklady Earth Sciences* **393A**, 1329-1332.