Avicennite

Crystal Data: Cubic. Point Group: 2/m 3. As crystals, less than 1 mm, some showing subhedral octahedral faces; as porous grains, and as a coating on carlinite.

Physical Properties: Fracture: Conchoidal to hackly, uneven. Tenacity: Very brittle. Hardness = 1.5–2.5 VHN = 46–80 (15 and 25 g loads). D(meas.) = 8.9 D(calc.) = 10.34


Cell Data: Space Group: Ia\(3\). \(a = 10.5468(3)\) Z = 16

X-ray Powder Pattern: Carlin mine, Nevada, USA.
3.044 (100), 1.864 (38), 2.637 (37), 1.590 (30), 4.307 (17), 2.068 (7), 2.486 (6)

Chemistry: (1) Near Dzhuzumli, Tajikistan; Tl 79.52% by microchemical methods, corresponding to \(\text{Tl}_2\text{O}_3\) 88.86%, Fe\(_2\)O\(_3\) 4.46% an impurity. (2) Carlin mine, Nevada, USA; by electron microprobe, average of three analyses, Tl 89.6% corresponding to \(\text{Tl}_2\text{O}_3\) 100.1%.

Occurrence: In the weathered zone of a hematite-calcite vein cutting banded marmorized and silicified limestones near a granite-gneiss contact (near Dzhuzumli, Tajikistan); formed by oxidation of carlinite in carbonaceous gold ores in silicified limestones and quartz (Carlin mine, Nevada, USA).

Association: Hematite, “limonite”, ferruginous clay minerals (near Dzhuzumli, Tajikistan); carlinite, hematite, quartz (Carlin mine, Nevada, USA); parapierrotite (Lookout Pass, Utah, USA).

Distribution: From near the village of Dzhuzumli, Mt. Zirabulaksk region, Samarkand district, western Uzbekistan. In the USA, from the Carlin mine, 50 km northwest of Elko, Lynn district, Eureka Co., Nevada, and near Lookout Pass, Tooele Co., Utah.

Name: For the medieval Uzbek (Persian) scholar and physician, Abū 'Ali al-Husayn ibn 'Abd Allāh ibn Sinā (Avicenna) (930–1037), who lived in Bukhara, Tajikistan.

Type Material: n.d.


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