Vergasovaite

\[ \text{Cu}_3\text{O(MoO}_4\text{, SO}_4\text{)}\text{(SO}_4\text{)} \]

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Crystal Data: Orthorhombic. Point Group: 2/m 2/m 2/m. Crystals are stout prismatic, slightly elongated along [001], to 0.3 mm, with \{100\}, \{110\}, \{120\}, \{130\}, \{111\}, \{263\}, \{315\}, isolated and in radiating aggregates.


Cell Data: Space Group: Pnma. \(a = 7.421(2)\quad b = 6.754(3)\quad c = 13.624(5)\quad Z = 4\)

X-ray Powder Pattern: Tolbachik volcano, Russia.
3.077 (100), 3.391 (60), 3.342 (60), 2.542 (60), 2.500 (60), 2.275 (60), 3.71 (30)

Chemistry:

\[
\begin{array}{c|c}
\text{Component} & \text{Weight} \\
\hline
\text{SO}_3 & 21.44 \\
\text{MoO}_3 & 25.29 \\
\text{V}_2\text{O}_5 & 0.88 \\
\text{CuO} & 49.81 \\
\text{ZnO} & 1.76 \\
\text{PbO} & 0.63 \\
\hline
\text{Total} & 99.81 \\
\end{array}
\]

(1) Tolbachik volcano, Russia; by electron microprobe, average of 18 analyses, (OH)\(^1\) and H\(_2\)O shown absent by IR; corresponds to (Cu\(_{2.82}\)Zn\(_{0.10}\)Pb\(_{0.01}\))\(_{\Sigma=2.93}\)O\(_{(\text{Mo}\(_{0.79}\)S\(_{0.20}\)\text{V}_0\text{04})\Sigma=1.03\text{SO}_4}}\)

Occurrence: A rare sublimation product in fumaroles.

Association: Chalcocyanite, dolerophanite, euchlorine, fedotovite, tenorite, cuprian anglesite, gold.

Distribution: From the Tolbachik fissure volcano, Kamchatka, Russia.

Name: Honors Dr. Lida Pavlovna Vergasova (1941– ), Institute of Vulcanology, Petropavlovsk-Kamchatskii, Russia, for her contributions to the mineralogy of that volcanic region.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia; Natural History Museum, Basel, Switzerland.