Mgriite Cu_3AsSe_3

Crystal Data: Cubic. *Point Group:* $4/m\ \overline{3}\ 2/m$. Massive, presumably.

Physical Properties: *Tenacity:* Brittle. Hardness = n.d. VHN = 287–379 (20 g load). D(meas.) = n.d. D(calc.) = 4.9

Optical Properties: Opaque. *Color:* Gray with a brownish tint in reflected light. *Luster:* Metallic.
R: (420) 27.1, (460) 26.7, (500) 26.4, (540) 26.9, (580) 27.0, (620) 26.8, (660) 26.4, (700) 26.0

Cell Data: *Space Group:* $Fd3m$. $a = 5.530(5)$ $Z = 1$

X-ray Powder Pattern: Erzgebirge, Germany.
3.18 (100), 1.952 (100), 1.671 (50), 1.268 (40), 1.129 (40), 0.978 (40)

Chemistry:

	(1)	(2)
Cu	37.2	37.94
Fe	1.8	
As	14.7	14.91
Se	47.2	47.15
Total	100.9	100.00

(1) Erzgebirge, Germany; by electron microprobe, average of four samples; corresponding to $(Cu_{2.92}Fe_{0.16})_{\Sigma=3.08}As_{0.98}Se_{2.96}$. (2) Cu_3AsSe_3.

Occurrence: In hydrothermal veins.

Association: Clausthalite, berzelianite, umangite, ankerite, calcite.

Distribution: From an undefined locality in the southwestern part of the Erzgebirge, Saxony, Germany.

Name: From the first letters of Moscow Geological Exploration Institute [Moskovskogo Geologro Razvedounogo Instituta (MGRI)] the laboratory in which the mineral was discovered.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.

References: (1) Dymkov, Y.M., T.I. Loseva, E.N. Zav'yalov, B.I. Ryzhov, and L.I. Bochek (1982) Mgriite, $(Cu, Fe)_3AsSe_3$, a new mineral. Zap. Vses. Mineral. Obshch., 111, 215–219 (in Russian). (2) (1983) Amer. Mineral., 68, 280–281 (abs. ref. 1).