PŮVODNÍ PRÁCE/ORIGINAL PAPER

Výskyt Mn-bohatého köttigitu v oblasti žil Marie - Geyer, Svornost, Jáchymov (Česká republika)

An occurrence of Mn-rich köttigite at the area of Marie and Geyer veins, Svornost, Jáchymov (Czech Republic)

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Abstract

An unusual occurrence of two types of Mn-rich köttigite was found at the area of Marie and Geyer veins, Daniel level of Svornost mine, the Jáchymov ore district (Czech Republic). Köttigite I occurs as rich light pink crystalline coatings formed by very brittle aggregates up to 1 - 2 mm in size. It is monoclinic, space group *C2/m*, the unit-cell parameters refined from the X-ray powder diffraction data are: *a* 10.283(1), *b* 13.448(1), *c* 4.7761(6) Å, β 105.18(1)° and *V* 637.4(1) Å^3. Its chemical composition (mean of 6 point analyses) corresponds to the empirical formula $(Zn_{1.86}Mn_{0.44}Mg_{0.31}Co_{0.15}Ni_{0.12}Ca_{0.10})_{\Sigma 2.98}(AsO_4)_{1.98}(PO_4)_{0.02}\cdot 8H_2O$ on the basis of (As+P) = 2 *apfu.* Köttigite II forms dark red-violet to crimson aggregates and groups of well-formed tabular crystals up to 2 mm in size. Its unit-cell parameters refined from the X-ray powder diffraction data are: *a* 10.272(2), *b* 13.451(1), *c* 4.773(1) Å, β 105.18(1)° and *V* 636.4(2) Å^3; its chemical composition (mean of 9 point analyses) can be expressed on the basis of (As+P) = 2 *apfu* as $(Zn_{1.46}Mn_{0.49}Co_{0.34}Mg_{0.29}Ni_{0.24}Ca_{0.07})_{\Sigma 2.89}(AsO_4)_{1.99}(PO_4)_{0.01}\cdot 8H_2O$.

Key words: *köttigite, powder X-ray diffraction data, unit-cell parameters, chemical composition, the Jáchymov ore district, Czech Republic*

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