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P. DZERZANOVSKY, I. G. BARASH. CUPROKALININITE CuCr_2S_4 — THE NEW SULFOSPINEL
FROM METAMORPHIC ROCKS OF SLUDYANKA COMPLEX (SOUTH BAIKAL REGION)

Cuprokalininite has been found as an accessory mineral in Cr-V-bearing quartz-diopside metamorphic rocks of Sludyanka complex, South Baikal region, Russia. The mineral is named for its composition as the Cu-analogue of kalininite (ZnCr_2S_4). It associates with quartz, Cr-V-bearing tremolite and mica, calcite, diopside-kosmochlor, goldmanite-uvarovite, dravite-chromdravite, Cr-V spinelides, karelianite-eskolaite, V-bearing titanite, pyrite, plagioclase. Cuprokalininite forms euhedral microcrystals, up to 0.05—0.20 mm, of octahedral and cube-octahedral habit with faces $o \{111\}$ and $a \{100\}$, with polysynthetic and simple twinning by $\{111\}$. Cleavage and parting were not observed. Its color is black with dark-bronze tint, streak black, luster metallic. Microhardness VHN (loads 20 and 30 g) 356—458, mean 396 kgf/mm^2 ; Mohs' hardness near 4.5—5, d_{calc} 4.16(2). In reflected light the mineral is pale cream, without anisotropy; reflectance values (λ , nm — R , %): 400 — 34.3, 420 — 34.1, 440 — 33.9, 460 — 33.7, 480 — 33.5, 500 — 33.2, 520 — 33.0, 540 — 32.8, 560 — 32.3, 580 — 32.2, 600 — 31.9, 620 — 31.6, 640 — 31.2, 660 — 30.9, 680 — 30.6, 700 — 30.4. Cubic, sp. gr. $Fd\bar{3}m$, $Z = 8$; unit cell parameter $a = 9.814(2) \text{ \AA}$, $V = 945.2(4) \text{ \AA}^3$. Strongest lines of the powder diffraction pattern [d , Å (I) (hkl): 3.44 (6)(220); 2.94 (10)(311); 2.44 (6)(400); 1.884 (9)(511, 333); 1.731 (10)(440); 1.133 (6)(751, 555); 1.098 (6)(840); 1.030 (6)(931), 1.002 (10)(844). Chemical composition (mean of 202 microprobe analyses of 11 grains, wt %): Cu 21.03, Fe 0.47, Zn 0.17, Cr 29.01, V 5.85, As 0.21, Sb 0.08, S 43.25, total sum 100.07. Empirical formula is $(\text{Cu}_{0.98}\text{Fe}_{0.02}\text{Zn}_{0.01})_{1.01}(\text{Cr}_{1.65}\text{V}_{0.34}\text{As}_{0.01})_{2.00}\text{S}_{3.99}$ (on the base of 7 ions). The type material is deposited at the Fersman Mineralogical Museum of the Russian Academy of Sciences, Moscow.

Key words: new minerals, cuprokalininite, kalininite, florensovite, sulfospinel.