Chlorbartonite $K_6Fe_{24}S_{26}Cl$

Crystal Data: Tetragonal. *Point Group*: 4/*m* 2/*m* 2/*m*. As roundish, equant, grains to 2 cm.

Physical Properties: *Cleavage*: None. *Fracture*: Conchoidal. *Tenacity*: Brittle. Hardness = 4 VHN = 203-212, 207 average (40 g load). D(meas.) = 3.70 D(calc.) = 3.65 Weakly magnetic.

Optical Properties: Opaque. *Color*: Brown-black, yellowish brown in reflected light.
Streak: Black. *Luster*: Submetallic.
Optical Class: Isotropic.
R: (420) 9.8, (440) 9.9, (460) 10.2, (480) 10.8, (500) 11.5, (520) 12.3, (540) 13.1, (560) 14.0, (580) 14.8, (600) 15.6, (620) 16.4, (640) 17.1, (660) 17.8, (680) 18.4, (700) 19.0, (720) 19.5

Cell Data: *Space Group*: *I*4/*mmm*. *a* = 10.3810(8) *c* = 20.614(2) Z = 2

X-ray Powder Pattern: Mount Koashva, Khibina massif, Kola Peninsula, Russia.
2.986 (100), 1.830 (82), 5.97 (65), 2.374 (57), 1.834 (51), 3.121 (45), 2.380 (38)

Chemistry:

	(1)
K	9.62
Fe	54.09
Co	0.04
Cu	0.57
Cl	0.99
S	33.84
Total	99.15

(1) Mount Koashva, Khibina massif, Kola Peninsula, Russia; corresponding to $K_{6.08}(Fe_{23.93}Cu_{0.22}Co_{0.01})_{\Sigma=24.16}S_{26.00}(Cl_{0.69}S_{0.07})_{\Sigma=0.76}$.

Mineral Group: Chlorbartonite-bartonite group.

Occurrence: In an alkaline hydrothermal vein in feldspathic urtite within apatite-nepheline rock.

Association: Djerfisherite, rasvumite, microcline, pectolite, sodalite, aegirine.

Distribution: From Mount Koashva, Khibina massif, Kola Peninsula, Russia.

Name: A prefix, *chlor*, indicates the chlorine-dominant analog of *bartonite*.

Type Material: Gorny Museum, Saint Petersburg Mining Institute, Russia and The Natural History Museum, London, England.

References: (1) Yakovenchuk, V.N., Y.A. Pakhomovsky, Y.P. Men'shikov, G.Yu. Ivanyuk, S.V. Krivovichev, and P.C. Burns (2003) Chlorbartonite, $K_6Fe_{24}S_{26}(Cl,S)$, a new mineral species from a hydrothermal vein in the Khibina massif, Kola Peninsula, Russia: description and crystal structure. Can. Mineral., 41, 503-511. (2) (2003) Amer. Mineral., 88(11), 1836 (abs. ref. 1).