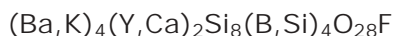


Kapitsaite-(Y)



TRICLINIC

Locality: The moraine of the Dara-i-Pioz glacier, Garm region, Tajikistan (Lat. 39°30' N, Long. 70°40' E).

Occurrence: Associated minerals are: quartz, reedmergnerite, leucosphenite, polyolithionite, pectolite, pyrochlore and aegirine.

General appearance: A sheaf-like aggregate (1 H 2 cm) of elongate grains (0.5 H 2 to 8 mm).

Physical, chemical and crystallographic properties: *Luster:* vitreous. *Diaphaneity:* transparent to translucent. *Color:* pale pink. *Streak:* white. *Luminescence:* fluoresces pale pink in short-wave ultraviolet light. *Hardness:* 5. *Tenacity:* brittle. *Cleavage:* absent. *Fracture:* conchoidal. *Density:* 3.74 g/cm³ (meas.), 3.80 g/cm³ (calc.). **Crystallography:** Triclinic, $\bar{1}\bar{1}$, a 11.181, b 10.850, c 10.252 Å, α 90.64°, β 90.05°, γ 89.97°, V 1243.6 Å³, $Z = 2$, $a:b:c = 1.0305:1:0.9449$. Morphology: no forms were observed. Twinning: none mentioned. **X-ray powder-diffraction data:** 7.80 (70) ($\bar{1}\bar{1}0$), 3.77 (100) (202), 3.73 (70) ($\bar{3}00$), 3.24 (75) (013), 2.93 (80) (321, $\bar{2}\bar{3}1$), 2.90 (90) ($\bar{3}12$), 2.74 (65) (040). **Optical data:** Biaxial (+), α 1.624, β 1.628, γ 1.637, $2V(\text{meas.})$ 69°, $2V(\text{calc.})$ 68°; dispersion $r < v$, weak; nonpleochroic; orientation not given. **Chemical analytical data:** Mean of seven sets of electron-microprobe data: Na₂O 0.46, K₂O 0.87, CaO 3.12, MnO 0.05, FeO 0.01, BaO 38.18, PbO 1.95, B₂O₃ 8.68, Al₂O₃ 0.04, Y₂O₃ 7.93, La₂O₃ 0.01, Ce₂O₃ 0.09, Pr₂O₃ 0.03, Nd₂O₃ 0.32, Sm₂O₃ 0.36, Gd₂O₃ 0.64, Dy₂O₃ 0.70, Ho₂O₃ 0.14, Er₂O₃ 0.36, Yb₂O₃ 0.20, SiO₂ 34.98, F 1.40, Cl 0.01, sum 100.53, less O = F + Cl 0.59, Total 99.94 wt.%. Empirical formula: (Ba_{3.55}K_{0.26}Pb_{0.12}Na_{0.07}) Σ 4.00 (Y_{1.00}Ca_{0.79}Na_{0.14}Gd_{0.05}Dy_{0.05}Nd_{0.03}Sm_{0.03}Er_{0.03}Ce_{0.01}Ho_{0.01}Yb_{0.01}) Σ 2.15 (Si_{7.99}Al_{0.01}) Σ 8.00 (B_{3.55}Si_{0.30}) Σ 3.85O_{27.95}F_{1.05}. **Relationship to other species:** It is the Y-dominant analogue of hyalotekite.

Name: After P'yotr Leonidovich Kapitsa (1894–1984), of Moscow, Russia, well-known solid-state physicist.

Comments: IMA No. 1998–057.

PAUTOV, L.A., KHVOROV, P.V., SOKOLOVA, E.V., FERRARIS, G., IVALDI, G. & BAZHENOVA, L.F. (2000): Kapitsaite-(Y) (Ba,K)₄(Y,Ca)₂Si₈(B,Si)₄O₂₈F – a new mineral. *Zapiski Vserossiiskogo Mineralogicheskogo Obshchestva* **129(6)**, 42-49 (in Russ.).