

Crystal Data: Monoclinic. *Point Group:* $2/m$ or m . As subparallel or sheaf-like aggregates and spherulites of acicular crystals, $\sim 500 \times 5 \mu\text{m}$, rarely $600 \times 20 \mu\text{m}$.

Physical Properties: *Cleavage:* None observed. *Tenacity:* Brittle, individual fibers are elastic and resilient, aggregates are tough (similar to nephrite). *Fracture:* Uneven to jagged. Hardness = 4-4.5 D(meas.) = 2.95(5) D(calc.) = 2.89

Optical Properties: Translucent to nearly opaque. *Color:* Colorless, snow-white (aggregates); colorless in transmitted light. *Streak:* White. *Luster:* Vitreous to silky.

Optical Class: Biaxial (+). $\alpha = 1.600(5)$ $b = 1.603(2)$ $\gamma = 1.626(2)$ $2V(\text{meas.}) = 30(20)^\circ$ $2V(\text{calc.}) = 40^\circ$ *Pleochroism:* None.

Cell Data: Space Group: $P2_1/c$, $P2/c$, or Pc . $a = 5.745(3)$ $b = 7.238(2)$ $c = 20.79(1)$ $\beta = 90.82(5)^\circ$ $Z = 1$

X-ray Powder Pattern: Bazhenovskoe chrysotile-asbestos deposit, Middle Urals, Russia. 3.009 (100), 2.925 (65), 2.633 (33), 2.116 (29), 5.89 (24), 3.36 (24), 3.48 (23), 10.52 (14)

Chemistry:	(1)
Na ₂ O	0.23
K ₂ O	0.57
CaO	28.94
BaO	16.79
B ₂ O ₃	11.57
Al ₂ O ₃	0.28
SiO ₂	31.63
F	0.05
H ₂ O	9.05
$\frac{-\text{O}=\text{F}_2}{\text{Total}}$	$\frac{0.02}{99.09}$

(1) Bazhenovskoe chrysotile-asbestos deposit, Middle Urals, Russia; average of 17 electron microprobe analyses, IR spectroscopy and the ^{11}B MAS NMR spectrum confirm the presence of BO_4 , H_2O by TGA; corresponds to $\text{Na}_{0.11}\text{K}_{0.18}\text{Ba}_{1.66}\text{Ca}_{7.84}\text{B}_{5.05}\text{Al}_{0.08}\text{Si}_{8.00}\text{O}_{31.80}(\text{OH})_{3.06}\text{F}_{0.04} \cdot 6.10\text{H}_2\text{O}$.

Occurrence: Of hydrothermal origin in cavities in rhodinite.

Association: Prehnite, pectolite, calcite, clinocllore; or grossular, diopside, chrysotile, pectolite, minerals of the tobermorite and hydrotalcite families.

Distribution: From the Bazhenovskoe chrysotile-asbestos deposit (eastern part of the open pit Yuzhnyi), near Asbest, Middle Urals, Russia.

Name: Honors Russian amateur mineralogist and mineral collector Anatoly V. Kasatkin (b. 1970).

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia; 41291/1.

References: (1) Pekov, I.V., N.V. Chukanov, Ya.E. Filinchuk, A.E. Zadov, N.N. Kononkova, S.G. Epanchintsev, P. Kaden, A. Kutzer, and J. Göttlicher (2012) Kasatkinite, $\text{Ba}_2\text{Ca}_8\text{B}_5\text{Si}_8\text{O}_{32}(\text{OH})_3 \cdot 6\text{H}_2\text{O}$, a new mineral from the Bazhenovskoe deposit (Middle Urals, Russia). *Zap. Ross. Mineral. Obshch.*, 141(3), 39-49 (in Russian, English abstract). (2) (2013) *Amer. Mineral.*, 98, 2201-2202 (abs. ref. 1).