

Crystal Data: Hexagonal. *Point Group:* 6/*m*. Crystals are typically hexagonal prismatic {11 $\bar{2}$ 0}, may be tapered by vincinal forms, with pyramidal {10 $\bar{1}$ 1} termination, to 10 cm.

Physical Properties: *Fracture:* Conchoidal. Hardness = 6.5–7.5 D(meas.) = 3.29(1) D(calc.) = 3.284 [F¹⁻ end-member]; 3.198 [(OH)¹⁻ end-member]. Piezoelectric.

Optical Properties: Transparent. *Color:* Colorless, pale yellowish brown, pale to dark cornflower-blue; colorless to pale blue in transmitted light, typically sector zoned.

Luster: Vitreous.

Optical Class: Uniaxial (–), may be anomalously biaxial (–) in sector-zoned crystals.

Pleochroism: Colorless to pale blue-violet if colored. *Dispersion:* $r > v$, distinct.

$\omega = 1.644$ – 1.647 $\epsilon = 1.637$ $\alpha = 1.637$ $\beta = 1.644$ – 1.647 $\gamma = 1.644$ – 1.652

2V(meas.) = 18°–33°

Cell Data: *Space Group:* P6₃/*m*. $a = 8.5591(3)$ $c = 8.1814(6)$ $Z = 2$

X-ray Powder Pattern: Mt. Sektui, Russia.

4.282 (100), 3.791 (57), 2.055 (44), 2.196 (35), 2.650 (33), 2.470 (30), 1.391 (30)

Chemistry:

	(1)	(2)
SiO ₂	0.03	0.17
B ₂ O ₃	33.51	33.81
Al ₂ O ₃	59.90	59.79
Fe ₂ O ₃	0.01	0.14
F	10.18	10.23
H ₂ O	n.d.	n.d.
–O = F ₂	4.29	4.31
Total	99.34	99.83

(1) Mt. Sektui, Russia; by electron microprobe. (2) Cape Cross, Namibia; by electron microprobe, (OH)¹⁻ calculated for charge balance; corresponds to Al_{6.00}Fe_{0.01}(B_{0.99}O₃)₅[F_{2.76}(OH)_{0.24}]_{Σ=3.00}.

Occurrence: A rare late hydrothermal mineral formed in granitic pegmatites.

Association: Albite, tourmaline, quartz, gypsum (Cape Cross, Namibia).

Distribution: Large crystals from Mt. Sektui, Nerschinsk district, Adun-Chilon Mountains, Siberia, Russia. In the Kukurt massif, Pamir Mountains, Tajikistan. In Namibia, gem crystals from a prospect near Cape Cross, at Mile 72, about 100 km north of Swakopmund, and from Ameib, Erongo Mountains. At Wannerköpfe and Emmelberg, near Üdersdorf, Eifel district, Germany.

Name: Honors Pavel Vladimirovich Eremeev (Jeremejev, *German*) (1830–1899), Russian mineralogist and crystallographer, who first recognized this species.

Type Material: Mining Institute, St. Petersburg, Russia, 412/1.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 330–332. (2) Herting, S. and H. Strunz (1978) Jeremejewit von Cape Cross in SW-Afrika. *Aufschluss*, 29, 45–53 (in German). (3) Foord, E.E., R.C. Erd, and G.R. Hunt (1981) New data for jeremejevite. *Can. Mineral.*, 19, 303–310. (4) Sokolova, E.V., Y.K. Yegorov-Tismenko, S.V. Kargal'tsev, V.A. Klyakhin, and V.S. Urusov (1987) Refinement of the crystalline structure of synthetic fluorous jeremejevite Al₆[BO₃]₅F₃. *Moscow Univ. Geol. Bull.*, 42, 79–81. (5) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union. *Ocean Pictures*, Moscow, 106–107.

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