

Crystal Data: Hexagonal. *Point Group:* 6/*m* or 6. Massive, in veinlets, to 0.2 mm wide, and as granular inclusions.

Physical Properties: *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = n.d. VHN = 1030 (40 g load). D(meas.) = n.d. D(calc.) = 7.03 Bright yellow-green cathodoluminescence.

Optical Properties: Transparent. *Color:* Colorless. *Luster:* Adamantine.

Optical Class: Uniaxial. *Anisotropism:* Noted. *Birefractance:* Noted.

R₁–R₂: (486) 18.0–19.0, (553) 18.6–19.5, (589) 18.9–19.6, (656) 18.5–18.7

Cell Data: *Space Group:* P6₃/*m* or P6₃ (?). *a* = 6.231 *c* = 36.77 *Z* = 6

X-ray Powder Pattern: Near the Irtysh River, Kazakhstan.

3.029 (10), 3.082 (9), 2.780 (9), 6.13 (7), 5.18 (6), 2.481 (6), 1.929 (4)

Chemistry:

	(1)
Ta ₂ O ₅	80.00
Nb ₂ O ₅	12.07
SnO ₂	0.58
MnO	trace
PbO	0.41
CaO	0.20
Na ₂ O	6.46
Total	99.72

(1) Near the Irtysh River, Kazakhstan; by electron microprobe, average of three analyses; corresponds to (Na_{1.83}Ca_{0.03}Pb_{0.02})_{Σ=1.88}(Ta_{3.19}Nb_{0.80}Sn_{0.03})_{Σ=4.02}O₁₁.

Occurrence: As veinlets in altered thoreaulite, and inclusions in ixiolite and lithiotantite, in granite pegmatites.

Association: Thoreaulite, ixiolite, lithiotantite.

Distribution: From the Ungursai tantalum deposit, Kalba Mountains, near the Irtysh River, eastern Kazakhstan.

Name: For the Irtysh River, Kazakhstan, near which it occurs.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 43776.

References: (1) Voloshin, A.V., Y.A. Pakhomovskii, L.V. Bulgak, and G.A. Perlina (1985) Irtyshite, a new mineral from granite pegmatites. *Mineral. Zhurnal*, 7(3), 83–87 (in Russian). (2) (1986) *Amer. Mineral.*, 71, 1545 (abs. ref. 1). (3) (1986) *Mineral. Abs.*, 37, 530 (abs. ref. 1).