

Crystal Data: Monoclinic. *Point Group:* 2/m. As prismatic to acicular crystals to 1 mm. Divergent aggregates resemble anthodites, to 2 mm, or “gypsum flowers”; also as granular sugar-like crusts.

Physical Properties: *Cleavage:* None. *Fracture:* Uneven. *Tenacity:* Brittle. *Hardness* = ~ 2
D(meas.) = 2.30(2) D(calc.) = 2.300

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous.
Optical Class: Biaxial (+). $\alpha = 1.522(2)$ $\beta = 1.530(2)$ $\gamma = 1.576(2)$ $2V(\text{meas.}) = 30(15)^\circ$
 $2V(\text{calc.}) = 46^\circ$ *Orientation:* Optical axes plane is (010), $Z \wedge c = 26^\circ$ (synthetic material).

Cell Data: *Space Group:* $P2_1/c$. $a = 6.2795(3)$ $b = 10.1397(3)$ $c = 12.0829(7)$ $\beta = 107.732(5)^\circ$
 $Z = 4$

X-ray Powder Pattern: First Scoria cone, Tolbachik volcano, Kamchatka, Russia.
3.062 (100), 5.986 (43), 5.766 (35), 3.907 (33), 7.62 (30), 2.853 (27), 2.996 (24)

Chemistry:	(1)	(2)
K	14.85	15.84
Tl	4.08	
Zn	25.82	26.48
Cl	41.70	43.08
H ₂ O	[14.19]	14.60
Total	100.64	100.00

(1) First Scoria cone, Tolbachik volcano, Kamchatka, Russia; average of 4 electron microprobe analyses supplemented by FTIR spectroscopy, H₂O calculated from stoichiometry; corresponding to (K_{0.96}Tl_{0.05}) $\Sigma=1.01$ Zn_{1.00}Cl_{2.99}·2H₂O. (2) KZnCl₃·2H₂O.

Occurrence: Formed as sublimates on basaltic scoria around active volcanic fumaroles and with involvement of meteoric water.

Association: Gypsum, ralstonite, opal.

Distribution: From the First scoria cone of the Northern Breakthrough of the Great Tolbachik Fissure Eruption, Tolbachik volcano, Kamchatka, Russia.

Name: Based on the Greek words, κρύος, for cold or ice, and βόστρυξ, for curl, alludes to the very similar appearance of aggregates of the mineral to ice curls.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (94995).

References: (1) I.V. Pekov, N.V. Zubkova, S.N. Britvin, V.O. Yapaskurt, N.V. Chukanov, I.S. Lykova, E.G. Sidorov, and D.Yu. Pushcharovsky (2015) New zinc and potassium chlorides from fumaroles of the Tolbachik volcano, Kamchatka, Russia: Mineral data and crystal chemistry. III. Cryobostryxite, KZnCl₃·2H₂O. *Eur. J. Mineral.*, 27, 805-812. (2) (2016) *Amer. Mineral.*, 101, 1711 (abs. ref. 1).