

Crystal Data: Orthorhombic. *Point Group:* *mm*2. As complex equant crystals, to 5 mm; massive.

Physical Properties: *Cleavage:* Fair in one direction; indistinct in two other directions. *Fracture:* Uneven to conchoidal. *Tenacity:* Brittle. Hardness = 6 D(meas.) = 2.662 D(calc.) = 2.70

Optical Properties: Transparent to translucent. *Color:* White; colorless in thin section. *Luster:* Vitreous.

Optical Class: Biaxial (+). $\alpha = 1.544$ $\beta = [1.546]$ $\gamma = 1.549$ $2V(\text{meas.}) = 62^\circ\text{--}82^\circ$

Cell Data: *Space Group:* *Fdd*2. $a = 21.129(5)$ $b = 6.881(2)$ $c = 21.188(5)$ $Z = 24$

X-ray Powder Pattern: Lovozero massif, Russia.
3.97 (vs), 2.46 (vs), 2.41 (vs), 1.79 (s), 1.48 (s), 1.40 (s), 1.11 (s)

Chemistry:

	(1)	(2)
SiO ₂	56.81	58.01
Fe ₂ O ₃	0.30	
FeO	0.12	
BeO	12.67	12.07
CaO	0.37	
Na ₂ O	28.93	29.92
K ₂ O	0.13	
H ₂ O ⁻	0.23	
SO ₃	0.22	
Total	99.78	100.00

(1) Lovozero massif, Russia. (2) Na₂BeSi₂O₆.

Occurrence: In veins in pegmatite in a differentiated alkalic massif (Lovozero massif, Russia); in sodalite xenoliths in an intrusive alkalic gabbro-syenite complex (Mont Saint-Hilaire, Canada).

Association: Manganoan pectolite, microcline, sodalite, eudialyte, neptunite, ussingite (Lovozero massif, Russia); villiaumite, ussingite, sodalite, aegirine, lovozerite, vuonnemite, sérandite, lueshite, steenstrupine (Mont Saint-Hilaire, Canada).

Distribution: At two locations on Mt. Punkaruai, Lovozero massif, and in the Khibiny massif, Kola Peninsula, Russia. On the Kangerdluarssuk Plateau and on the Taseq slope, in the Ilímaussaq intrusion, southern Greenland. From Mont Saint-Hilaire, Quebec, Canada.

Name: For Valerii Pavlovich Chkalov (1904–1938), first to fly nonstop from Moscow to the USA across the North Pole.

Type Material: Vernadsky State Geological Museum, Moscow, 18767; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 40001.

References: (1) Gerasimovskii, V.I. (1939) Chkalovite. *Doklady Acad. Nauk SSSR*, 22, 259–263 (in Russian). (2) (1940) *Amer. Mineral.*, 25, 380 (abs. ref. 1) (3) Vlasov, K.A., M.V. Kuz'menko, and E.M. Es'kova (1966) The Lovozero alkali massif. *Akad. Nauk SSSR*, 429–432 (in English). (4) Simonov, M.A., Y.K. Egorov, and N.V. Belov (1975) Refined crystal structure of chkalovite, Na₂Be(Si₂O₆). *Doklady Acad. Nauk SSSR*, 225, 1319–1322 (in Russian). (5) (1977) *Mineral. Abs.*, 28, 140 (abs. ref. 4). (6) Mandarino, J.A. and V. Anderson (1989) *Monteregian Treasures*. Cambridge Univ. Press, 57.

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