Yegorovite $Na_4[Si_4O_8(OH)_4]\cdot 7H_2O$

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As divergent prismatic on [100] or lamellar on {010} crystals to 1 mm, in chaotic groups to 2 cm or radial-lamellar clusters.
Twinning: Polysynthetic on {010}.

Physical Properties: *Cleavage*: Perfect on (010) and (001). *Tenacity*: Flexible, inelastic.
Fracture: Splintery. Hardness = ~2 D(meas.) = 1.90(2) D(calc.) = 1.92

Optical Properties: Transparent to translucent. *Color*: Colorless. *Streak*: White.
Luster: Vitreous.
Optical Class: Biaxial (-). α = 1.474(2) β = 1.479(2) γ = 1.482(2) 2V(meas.) > 70°
2V(calc.) = 75° *Orientation*: $X \wedge a \approx 15°$, $Y = c$, $Z = b$. *Dispersion*: Weak, $r < v$. Nonpleochroic.

Cell Data: *Space Group*: $P2_1/c$. a = 9.8744(4) b = 12.3981(5) c = 14.8973(7) β = 104.675(5)° Z = 4

X-ray Powder Pattern: Palitra pegmatite, Mt. Kedykverpakhk, Kola Peninsula, Russia.
3.116 (100), 6.21 (72), 7.21 (70), 4.003 (49), 3.734 (46), 4.696 (44), 2.463 (38)

Chemistry:

	(1)	(2)
Na_2O	23.28	23.545
SiO_2	45.45	45.65
H_2O	[31.27]	30.805
Total	100.00	100.000

(1) Palitra pegmatite, Mt. Kedykverpakhk, Kola Peninsula, Russia; average electron microprobe analysis supplemented by IR spectroscopy, H_2O by difference and for charge balance; corresponds to $Na_{3.98}Si_{4.01}O_{8.02}(OH)_{3.98}\cdot 7.205H_2O$. (2) $Na_4[Si_4O_8(OH)_4]\cdot 7H_2O$.

Mineral Group: Carpholite group.

Occurrence: Late hydrothermal, low temperature paragenesis in peralkaline pegmatite.

Association: Revdite, megacyclite, natrosilite, microcline, villiaumite.

Distribution: From the Palitra pegmatite, Mt. Kedykverpakhk, Lovozero alkaline massif, Kola Peninsula, Russia.

Name: Honors Russian crystallographer and crystal-chemist Yurii Kavdievich *Yegorov*-Tismenko (1938-2007), Faculty of Geology, Moscow State University.

Type Material: A.E. Fersman Mineralogical Museum, RAS, Moscow, Russia (3729/1).

References: (1) Pekov, I.V., N.V. Zubkova, N.V. Chukanov, A.E. Zadov, V.G. Grishin, and D.Yu. Pushcharovsky (2010) Yegorovite, $Na_4[Si_4O_8(OH)_4]\cdot 7H_2O$ - a new mineral from the Lovozero alkaline pluton, Kola Peninsula. Geology of Ore Deposits, 52(7), 584-590. (2) Zubkova, N.V., I.V. Pekov, D.Yu. Pushcharovskii, and S.S. Kazantsev (2009) Crystal structure of yegorovite $Na_4[Si_4O_8(OH)_4]\cdot 7H_2O$. Doklady Earth Sciences, 427, 814-818.