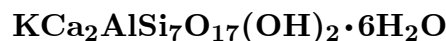


Hydrodelhayelite



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Crystal Data: Orthorhombic. *Point Group:* $mm2$. Habit not stated.

Physical Properties: *Cleavage:* {010}, very perfect; {100} and {001}, imperfect.
Hardness = ~ 4 $D(\text{meas.}) = 2.168$ $D(\text{calc.}) = 2.22$

Optical Properties: Semitransparent. *Color:* Grayish white. *Luster:* Vitreous.
Optical Class: Biaxial. $\alpha = 1.503$ $\beta = \text{n.d.}$ $\gamma = 1.518$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* $Pnm2_1$. $a = 6.6483$ $b = 23.8462$ $c = 7.0727$ $Z = 2$

X-ray Powder Pattern: Khibiny massif, Russia.
2.923 (100), 3.069 (75), 2.800 (55), 3.319 (43), 6.79 (38)

Chemistry:	(1)	(2)		(1)	(2)
SiO ₂	55.53	55.56	Na ₂ O	0.22	
TiO ₂	0.01		K ₂ O	6.18	6.22
Al ₂ O ₃	8.46	6.74	F	0.00	
Fe ₂ O ₃	0.65		Cl	0.15	
MnO	0.18		H ₂ O ⁺	9.62	
MgO	0.21		H ₂ O ⁻	5.58	
CaO	12.72	14.82	H ₂ O		16.66
SrO	0.22		-O = Cl ₂	0.09	
			Total	99.64	100.00

(1) Mt. Rasvumchorr, Khibiny massif, Russia. (2) $\text{KCa}_2\text{AlSi}_7\text{O}_{17}(\text{OH})_2 \cdot 6\text{H}_2\text{O}$.

Occurrence: A secondary alteration product of delhayelite from ijolite-urtite pegmatites in a differentiated alkalic massif.

Association: Delhayelite, lamprophyllite, eudialyte, hisingerite, aegirine, orthoclase.

Distribution: On Mts. Rasvumchorr and Yukspor, in the Khibiny massif, Kola Peninsula, Russia.

Name: For its relation to *delhayelite*, and the water in its composition.

Type Material: Mining Institute, St. Petersburg, 1178/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 79785.

References: (1) Dorfman, M.D. and M.I. Chiragov (1979) Hydrodelhayelite, a product of supergene alteration of delhayelite. New data on minerals of the USSR, 28, 172–175. (2) (1980) Mineral. Mag., 31, 496 (abs. ref. 1). (3) (1987) Amer. Mineral., 72, 1024 (abs. ref. 1). (4) Chiragov, M.I. and M.G. Dorfman (1981) Crystal chemistry of minerals in the delhayelite group. Doklady Acad. Nauk SSSR, 260, 458–461 (in Russian).