

Aqualite**Crystal Data:** Hexagonal. *Point Group:* 3. Crystals, equant, to 3 cm.**Physical Properties:** *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle.
Hardness = 4-5 D(meas.) = 2.58(2) D(calc.) = 2.66 Fluoresces pale yellow in LW UV.**Optical Properties:** Transparent. *Color:* Pale pink. *Streak:* White. *Luster:* Vitreous.
Optical Class: Uniaxial (+). $\omega = 1.569(1)$ $\varepsilon = 1.571(1)$ *Pleochroism:* E = colorless to pink;
O = pink.**Cell Data:** *Space Group:* R3. $a = 14.078(3)$ $c = 31.24(1)$ $Z = 3$ **X-ray Powder Pattern:** Inagli massif, Sakha Republic, Russia.
4.39 (100), 2.987 (100), 2.850 (79), 10.50 (44), 6.63 (43), 7.06 (42), 3.624 (41)

Chemistry:	(1)		(1)
Na ₂ O	2.91	Ce ₂ O ₃	0.54
K ₂ O	1.93	Al ₂ O ₃	0.34
CaO	11.14	SiO ₂	52.70
SrO	1.75	ZrO ₂	12.33
BaO	2.41	TiO ₂	0.78
FeO	0.56	Nb ₂ O ₅	0.15
MnO	0.30	Cl	1.50
La ₂ O ₃	0.17	H ₂ O	9.93
Nd ₂ O ₃	0.36	<u>-O=Cl₂</u>	<u>0.34</u>
		Total	99.46

(1) Inagli massif, Sakha Republic, Russia; average of 5 electron microprobe analyses, H₂O by Penfield method, IR confirms H₃O⁺, corresponding to $[(\text{H}_3\text{O})_{7.94}\text{Na}_{2.74}\text{K}_{1.20}\text{Sr}_{0.49}\text{Ba}_{0.46}\text{Fe}_{0.23}\text{Mn}_{0.12}]_{\Sigma=13.18}\text{Ca}_{5.79}\text{REE}_{0.19}\Sigma=5.98(\text{Zr}_{2.92}\text{Ti}_{0.08})_{\Sigma=3}(\text{Si}_{25.57}\text{Ti}_{0.21}\text{Al}_{0.19}\text{Nb}_{0.03})_{\Sigma=26}[\text{O}_{66.46}(\text{OH})_{5.54}]_{\Sigma=72.0}[(\text{OH})_{2.77}\text{Cl}_{1.23}]_{\Sigma=4.0}$.

Mineral Group: Eudialyte group.**Occurrence:** In a hydrothermally altered peralkaline pegmatite in an alkaline massif.**Association:** Natrolite, microcline, eckermanite, aegirine, batisite, innelite, lorenzenite, thorite, galena.**Distribution:** Inagli massif, ~30 km ESE of Aldan, Sakha Republic (former Yakutsk), Russia.**Name:** From the Latin *aqua* in allusion to the role of “water” in its composition.**Type Material:** A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow (catalog no. 2668/1).**References:** (1) Khomyakov, A.P., G.N. Nechelyustov, and R.K. Rastsvetaeva (2007) Aqualite, $(\text{H}_3\text{O})_8(\text{Na,K,Sr})_5\text{Ca}_6\text{Zr}_3\text{Si}_{26}\text{O}_{66}(\text{OH})_9\text{Cl}$, a new eudialyte-group mineral from the Inagli alkaline massif, Sakha-Yakutsk, Russia, and the problem of oxonium in hydrated eudialyte. *Zap. Ross. Mineral. Obshch.*, 136(2), 39–55 (in Russian, English abstract); (2007) *Geology of Ore Deposits*, 49, 739–751 (in English). (2) (2009) *Amer. Mineral.*, 94, 1075-1076 (abs. ref. 1).