

Crystal Data: Hexagonal. *Point Group:* 3. As irregular, equant or flattened crystals, sometimes with a hexagonal outline, to 1.5 cm. Dominant forms are trigonal prisms.

{100}, { $\bar{1}$ 00} and trigonal pyramids {101}, { $\bar{1}$ 01}, {10 $\bar{1}$ }, { $\bar{1}$ 0 $\bar{1}$ }. Resembles quartz.

Physical Properties: *Cleavage:* Imperfect on (001) and (hk0). *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 4.5-5 D(meas.) = 3.986 D(calc.) = 4.000 Fluoresces bright pink-orange in SW UV and weak pink-red in LW UV.

Optical Properties: Transparent. *Color:* Light green, colorless in thin section. *Streak:* White. *Luster:* Vitreous.

Optical Class: Uniaxial (-). $\epsilon = 1.623(3)$ $\omega = 1.628(2)$ *Pleochroism:* None.

Cell Data: Space Group: *P*3. $a = 5.541(2)$ $c = 7.020(3)$ $Z = 1$

X-ray Powder Pattern: Palitra (Palette) pegmatite, Kola Peninsula, Russia.

2.839 (100), 2.774 (100), 3.964 (60), 1.984 (40), 1.611 (26), 7.044 (22), 2.344 (20)

Chemistry:

	(1)
Na ₂ O	14.78
K ₂ O	0.87
CaO	0.32
SrO	16.57
BaO	31.17
MnO	0.39
La ₂ O ₃	2.41
Ce ₂ O ₃	1.90
Pr ₂ O ₃	0.10
Nd ₂ O ₃	0.16
SiO ₂	0.08
<u>P₂O₅</u>	<u>31.77</u>
Total	100.52

(1) Palitra (Palette) pegmatite, Kola Peninsula, Russia; electron microprobe analysis, corresponding to (Na_{2.14}K_{0.08}Ca_{0.03}Mn_{0.02}Sr_{0.72}Ba_{0.91}La_{0.07}Ce_{0.05}) $\Sigma=4.02$ P_{2.01}O₈.

Polymorphism & Series: Forms a series with olgitite.

Occurrence: A late-stage crystallization product of a dry melt supersaturated in Na and F at temperatures of 300-350° C.

Association: Intermixed with manaksite, natrosilite, villiaumite; also aegirine, analcime, chkalovite, natrolite, serandite, sodalite, ussingite, vuonnemite.

Distribution: At the Palitra (Palette) pegmatite, Mt. Kedykverpakhk, Lovozero alkaline massif, Kola Peninsula, Russia.

Name: Reflects the dominant presence of BARI um in the composition and the relation to *olgitite*.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Science, Moscow, Russia; 2908/1.

References: (1) Pekov, I.V., N.V., Chukanov, I.M., Kulikova, N.V., Zubkova, O.D., Krotova, N.I., Sorokina, and D.S. Pushcharovsky (2004) A new mineral, bari-olgitite Ba(Na,Sr,REE)₂Na[PO₄]₂, and its crystal structure. *Zapiski Vseross. Mineral. Obshch.* 133(1), 41-49 (in Russian, English abstract). (2) (2005) *Amer. Mineral.*, 90, 768-769 (abs. ref. 1).