

**Ilímaussite-(Ce)****Ba<sub>2</sub>Na<sub>4</sub>CeFe<sup>3+</sup>Nb<sub>2</sub>Si<sub>8</sub>O<sub>28</sub>·5H<sub>2</sub>O**

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**Crystal Data:** Hexagonal. *Point Group:*  $6/m\ 2/m\ 2/m, \bar{6}m2$ , or  $6mm$ . As lamellar aggregates up to 15 mm. *Twinning:* Polysynthetic twinning may be observed.

**Physical Properties:** *Fracture:* Conchoidal. Hardness =  $\sim 4$  D(meas.) = 3.6  
D(calc.) = 3.7

**Optical Properties:** Transparent to translucent. *Color:* Brownish yellow. *Luster:* Resinous.  
*Optical Class:* Uniaxial (+).  $\omega = 1.689$   $\epsilon = 1.695$

**Cell Data:** *Space Group:*  $P6_3/mcm, P\bar{6}c2$ , or  $P6_3cm$ .  $a = 10.80(4)$   $c = 20.31(7)$   $Z = 3$

**X-ray Powder Pattern:** Ilímaussaq intrusion, Greenland.  
2.67 (10), 3.25 (6), 3.12 (5), 2.98 (4), 2.24 (3), 2.50 (2), 2.022 (2b)

**Chemistry:**

	(1)	(2)
SiO <sub>2</sub>	31.28	31.81
TiO <sub>2</sub>	1.64	
Ce <sub>2</sub> O <sub>3</sub>		10.86
RE <sub>2</sub> O <sub>3</sub>	10.60	
Fe <sub>2</sub> O <sub>3</sub>	3.18	5.29
Nb <sub>2</sub> O <sub>5</sub>	13.20	17.59
BaO	23.62	20.29
Na <sub>2</sub> O	7.00	8.20
K <sub>2</sub> O	3.80	
H <sub>2</sub> O		5.96
LOI	6.43	
Total	100.75	100.00

(1) Ilímaussaq intrusion, Greenland; alkalis by flame photometry, RE in proportions Ce<sub>55</sub>La<sub>23.6</sub>Nd<sub>14.7</sub>Pr<sub>6.7</sub>. (2) Ba<sub>2</sub>Na<sub>4</sub>CeFeNb<sub>2</sub>Si<sub>8</sub>O<sub>28</sub>·5H<sub>2</sub>O.

**Occurrence:** In a hydrothermal ussingite-analcime vein cutting sodalite syenite in an alkalic massif.

**Association:** Chkalovite, epistolite.

**Distribution:** At Nákâlâq, in the Ilímaussaq intrusion, southern Greenland.

**Name:** For the Ilímaussaq intrusion, where it was discovered.

**Type Material:** n.d.

**References:** (1) Semenov, E.I., M.E. Kazakova, and V.J. Bukin (1968) Ilimaussite, a new rare-earth-niobium-barium silicate from Ilímaussaq, South Greenland. *Medd. Grønland*, 181(7), 3–7. (2) (1969) *Amer. Mineral.*, 54, 992–993 (abs. ref. 1).