Jørgensenite $\mathbf{Na(Sr,Ba)_7(Na,Mg)Al_6F_{32}(OH,F)_2}$

Crystal Data: Monoclinic. *Point Group:* $2/m$. Crystals are elongated along [010], to 1 cm; commonly in flat fan-shaped or columnar aggregates, intimately intergrown with jarlite or stenonite; massive.

Physical Properties: *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 3.5–4
D(meas.) = 3.89(1) D(calc.) = 3.94

Optical Properties: Semitransparent. *Color:* Colorless to white; colorless in transmitted light. *Streak:* White. *Luster:* Vitreous.
Optical Class: Biaxial (–). *Orientation:* $Y = b$. $\alpha = 1.436(1)$ $\beta = 1.442(1)$ $\gamma = 1.442(1)$
2V(meas.) = 0°–5(5)° ($2V_z$) 2V(calc.) = 0°

Cell Data: *Space Group:* $C2/m$. $a = 16.046(1)$ $b = 10.971(1)$ $c = 7.281(1)$
$\beta = 101.734(6)°$ Z = 2

X-ray Powder Pattern: Ivigtut, Greenland.
3.453 (10), 3.193 (10), 3.643 (9), 3.112 (9), 2.989 (9), 2.173 (9), 7.844 (8)

Chemistry:

	(1)
Na	3.25
K	0.30
Mg	0.38
Ca	0.28
Ba	8.63
Sr	32.76
Al	10.97
F	42.50
H_2O	[1.22]
Total	100.29

(1) Ivigtut, Greenland; by electron microprobe, average of 11 analyses, H_2O calculated from stoichiometry, $(OH)^{1-}$ confirmed by microbeam IR spectroscopy; corresponds to $Na_{1.00}(Sr_{5.52}Ba_{0.92}Na_{0.32}K_{0.12}Ca_{0.10})_{\Sigma=6.98}(Na_{0.77}Mg_{0.23})_{\Sigma=1.00}Al_6F_{33.00}(OH)_{1.00}$.

Occurrence: In vugs and as fissure fillings in a cryolite deposit with other fluorides.

Association: Jarlite, stenonite, thomsenolite, gearksutite, topaz, muscovite.

Distribution: From the Ivigtut cryolite deposit, Greenland.

Name: For Vilhelm Jørgensen (1844–1925), cofounder, in 1870, of the cryolite factory at Ivigtut, Greenland.

Type Material: University of Copenhagen, Copenhagen, Denmark, 1996.168.

References: (1) Pauly, H., F.C. Hawthorne, P.C. Burns, and G.D. Ventura (1997) Jørgensenite, $Na_2(Sr,Ba)_{14}Na_2Al_{12}F_{64}(OH,F)_4$, a new aluminofluoride mineral from Ivigtut, Greenland. Can. Mineral., 35, 175–179.