

Crystal Data: Monoclinic. *Point Group:* 2/m. As minute bladed crystals, flattened on (010) and elongate on [100], exhibiting forms {010}, {0 $\bar{1}$ 0}, {001}; {2 0 $\bar{1}$ }; as spherules.

Twinning: On {001}.

Physical Properties: *Cleavage:* None observed. *Fracture:* Uneven.

Tenacity: Very brittle. Hardness = ~4 D(meas.) = n.d. D(calc.) = 2.605

Optical Properties: Translucent to transparent. *Color:* Colorless to white; very pale beige in aggregates. *Streak:* White. *Luster:* Vitreous.

Orientation: Z = b.

Optical Class: Biaxial (+). $\alpha = 1.578(1)$ $\beta = 1.580(1)$ $\gamma = 1.583(1)$ 2V(meas.) = 82(5)° 2V(calc.) = 79° *Orientation:* Z = b; X $\wedge$ a = 45(2)°.

Cell Data: *Space Group:* P2₁. $a = 7.1222(4)$ $b = 19.8378(11)$ $c = 9.8071(5)$

$\beta = 111.287(1)^\circ$ Z = 4

X-ray Powder Pattern: Tvedalen, Larvik, Vestfold, south Norway.

9.095 (100), 2.915 (92), 3.972 (76), 2.964 (70), 6.279 (42), 3.205 (37), 2.757 (33)

Chemistry:

	(1)	(2)
SiO ₂	47.04	47.73
BeO	14.74	14.90
Al ₂ O ₃	0.04	
BaO	0.03	
CaO	22.14	22.07
SrO	0.66	
Na ₂ O	6.06	6.15
K ₂ O	0.10	
H ₂ O	8.86	8.95
Total	99.67	100.00

(1) Tvedalen, Larvik, Vestfold, south Norway; average of 17 electron microprobe and ICP analyses, H₂O from stoichiometry, OH confirmed by IR, corresponding to

(Na_{0.99}Sr_{0.03}K_{0.01}) $\Sigma=1.03$ Ca_{2.01}Be_{2.99}Si_{3.98}O₁₃(OH)·2H₂O. (2) NaCa₂Be₃Si₄O₁₃(OH)·2H₂O.

Mineral Group: Zeolite group.

Occurrence: A late-stage hydrothermal mineral in a syenitic pegmatite in larvikite.

Association: Calcite, analcime, K-feldspar.

Distribution: Tuften larvikite quarry, Tvedalen, Larvik, Vestfold, south Norway.

Name: Honors Alf Olav Larsen (b. 1952), Norwegian self-taught mineralogist who has contributed to the description of six new mineral species.

Type Material: Department of Geology, Natural History Museum, University of Oslo, Norway (catalog number 42108); Canadian Museum of Nature, Ottawa (catalog number CMNMC 86066).

References: (1) Raade, G., J.D. Grice, and M.A. Cooper (2009) Alflarsenite, a new beryllium-silicate zeolite from a syenitic pegmatite in the Larvik plutonic complex, Oslo Region, Norway. *Eur. J. Mineral.*, 21, 893–900. (2) Grice, J.D., G. Raade, and M.A. Cooper (2010) Alflarsenite; structure and relationship to other Be-Si and zeolite framework structures. *Can. Mineral.*, 48, 255–266. (3) (2010) *Amer. Mineral.*, 95, 1121 (abs. ref. 1).