

Crystal Data: Monoclinic. *Point Group:* 2/m. As acicular crystals to 50 μm , probably elongated along [100].

Physical Properties: *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. *Hardness* = n.d.
D(meas.) = n.d. D(calc.) = 2.89

Optical Properties: Transparent. *Color:* White. *Streak:* n.d. *Luster:* Earthy.
Optical Class: n.d.

Cell Data: *Space Group:* C2/c. $a = 8.601(1)$ $b = 6.2903(6)$ $c = 7.2190(7)$ $\beta = 114.61(1)^\circ$
 $Z = 4$

X-ray Powder Pattern: Hekla volcano, Iceland.

3.13 (100), 3.92 (76), 3.15 (68), 2.27 (22), 1.805 (22), 1.957 (21), 1.814 (20)

Chemistry:	(1)	(2)	(3)
Ca	18.99	24.73	25.04
Mg	1.33		
Na	0.33		
Al	18.55	16.65	16.86
F	50.20	58.62	47.48
O	10.39		10.00
H			0.63
Total	99.79	100.00	100.00

(1) Eldfell volcano, Iceland; average of 25 EDS analyses; corresponding to $(\text{Ca}_{0.73}\text{Mg}_{0.09}\text{Na}_{0.02})_{\Sigma=0.84}\text{Al}_{1.06}\text{F}_{4.09}(\text{OH})_{1.01}$. (2) CaAlF_5 . (3) CaAlF_4OH .

Occurrence: Forms crusts around fumaroles in active basaltic volcanoes.

Association: Ralstonite, gypsum, hematite, anhydrite, opal-A (Eldfell volcano); leonardsenite, heklaite, malladrite, hieratite, fluorite, chiolite, unnamed phases with the formulae $\text{Na}_2\text{Ca}_3\text{Al}_2\text{F}_{14}$ and $\text{FeSiF}_6 \cdot 6\text{H}_2\text{O}$ (Hekla volcano).

Distribution: From Eldfell volcano, Heimaey Island, and Hekla volcano, Iceland.

Name: Honors Sveinn Peter Jakobsson (b. 1939), one of Iceland's leading volcanologists, and because he was the first person to recognize the mineral.

Type Material: Icelandic Institute of Natural History, Reykjavík, Iceland (NI 12256).

References: (1) Balić-Žunić, T., A. Garavelli, D. Mitolo, P. Acquafredda, and E. Leonardsen (2012) Jakobssonite, CaAlF_5 , a new mineral from fumaroles at the Eldfell and Hekla volcanoes, Iceland. *Mineral. Mag.*, 76(3), 751-760. (2) (2015) *Amer. Mineral.*, 100, 1327 (abs. ref. 1).