## Oskarssonite $AlF_3$

**Crystal Data**: Hexagonal. *Point Group*: $\bar{3}\,2/m$. Forms a fine grained powder.

**Physical Properties**: *Cleavage*: n.d. *Fracture*: n.d. *Tenacity*: n.d. Hardness = n.d.
D(meas.) = n.d. D(calc.) = 3.184

**Optical Properties**: Translucent. *Color*: White to grayish yellow. *Streak*: n.d.
*Luster*: n.d.
*Optical Class*: Uniaxial (+). $\omega$ = 1.3765 $\varepsilon$ = 1.3770 [Synthetic $AlF_3$]

**Cell Data**: *Space Group*: $R\bar{3}\,c$. $a$ = 4.9817(4) $c$ = 12.387(1) Z = 6

**X-ray Powder Pattern**: Eldfell volcano, Heimaey Island, Vestmannaeyjar archipelago, Iceland.
3.54 (100), 1.771 (20), 1.59 (15), 2.131 (13), 1.574 (10), 2.06 (8), 1.61(8)

**Chemistry**:

| | (1) | (2) |
|---|---|---|
| Al | 31.70 | 32.13 |
| F | 58.41 | 67.87 |
| O | 9.22 | . |
| Total | 99.33 | 100.00 |

(1) Eldfell volcano, Heimaey Island, Iceland; average of 5 electron microprobe analyses; corresponding to $Al(F_{2.62}(OH)_{0.49})_{\Sigma=3.11}$. (2) $AlF_3$.

**Occurrence**: As sublimate encrustations deposited at 90 °C close to the surface of fumarole vents.

**Association:** Anhydrite, bassanite, gypsum, jarosite, anatase, hematite, opal, ralstonite, jacobssonite, meniaylovite.

**Distribution**: From the Eldfell volcano, Heimaey Island, Vestmannaeyjar archipelago, Iceland; also reported from Mount Erebus, Antarctica.

**Name**: Honors Niels Oskarsson (b. 1944), a prominent Icelandic volcanologist, in recognition of his work on Icelandic fumaroles.

**Type Material**: Icelandic Institute of Natural History, Gardabaer, Iceland (NI 24489), and the mineral collection, Natural History Museum of Denmark, Copenhagen (# 2012.112, 2012.113, 2012.114).

**References**: (1) Jacobsen, M.J., T. Balić-Žunić, D. Mitolo, A. Katerinopoulou, A. Garavelli, and S.P. Jacobsson (2014) Oskarssonite, $AlF_3$, a new fumarolic mineral from Eldfell volcano, Heimaey, Iceland. Mineral. Mag., 78(1), 215-222. (2) (2014) Amer. Mineral., 99, 1809-1810 (abs. ref. 1).