

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As masses of intergrown micrometer-sized crystals.

Physical Properties: *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. *Hardness* = n.d. D(meas.) = n.d. D(calc.) = 2.69

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

Cell Data: *Space Group:* Pnma. *a* = 9.3387(7) *b* = 5.5032(4) *c* = 9.7957(8) *Z* = 4

X-ray Powder Pattern: Hekla central volcano, Iceland.
3.34 (100), 4.26 (56), 4.33 (53), 2.050 (52), 3.40 (49), 3.37 (47), 2.016 (29)

Chemistry:	(1)	(2)
Na	11.98	11.26
K	18.29	19.15
Si	13.91	13.76
<u>F</u>	<u>55.66</u>	<u>55.83</u>
Total	99.84	100.00

(1) Hekla volcano, Iceland; average of 5 EDS analyses; corresponds to Na_{1.063}K_{0.954}Si_{1.010}F_{5.974}.

(2) KNaSiF₆.

Occurrence: A sublimate precipitated around fumaroles emitting F-rich volcanic gases.

Association: Ralstonite, malladrite, hieratite, jakobssonite.

Distribution: From the Hekla central volcano, Eastern Volcanic Zone, South Iceland. From lava tubes in Hawaii, USA.

Name: For the *Hekla* volcano, Iceland, where the first specimens were collected.

Type Material: Icelandic Institute of Natural History, Reykjavik, Iceland (NI 15513); and Department of Mineralogy, University of Bari, Italy (9/nm-V28).

References: (1) Garavelli, A., T. Balić-Žunić, D. Mitolo, P. Acquafredda, E. Leonardsen, and S.P. Jakobsson (2010) Heklaite, KNaSiF₆, a new fumarolic mineral from Hekla volcano, Iceland. *Mineral. Mag.*, 74(1), 147-157. (2) (2011) *Amer. Mineral.*, 96, 1910-1911 (abs. ref. 1). (3) Hon, K., D.J. Bove, L. Lee, and C. Thornber (2009) The origin and zonation of sublimates and precipitates in active Hawaiian lava tubes. *Geol. Soc. Amer., Abstr. with Prog.*, v. 41(7), 193.