

**Knasibfite****K<sub>3</sub>Na<sub>4</sub>[SiF<sub>6</sub>]<sub>3</sub>[BF<sub>4</sub>]**

**Crystal Data:** Orthorhombic. *Point Group:* *mm2*. As well-formed prismatic crystals, to 0.1 mm, displaying {001}, {100}, {010}, {110}, {011}, {101}.

**Physical Properties:** *Cleavage:* None. *Fracture:* n.d. *Tenacity:* Brittle. *Hardness =* n.d. *D(meas.) =* 2.75(1) *D(calc.) =* 2.77

**Optical Properties:** Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Nearly isotropic. *n =* 1.32

**Cell Data:** *Space Group:* *Imm2*. *a =* 5.521(1) *b =* 17.115(4) *c =* 9.186(2) *Z =* 2

**X-ray Powder Pattern:** La Fossa crater, Vulcano, Aeolian Islands, Sicily, Italy. 4.044 (100), 8.558 (50), 2.280 (50), 3.175 (30), 8.107 (25), 4.726 (25), 4.134 (25)

<b>Chemistry:</b>	(1)	(2)
K	16.78	16.24
Si	11.36	11.67
F	57.83	57.87
Na	13.14	12.73
<u>B</u>	<u>1.50</u>	<u>1.50</u>
Total	100.61	100.00

(1) La Fossa crater, Vulcano, Sicily, Italy; average of 10 EDS analyses, B calculated from the structure, corresponding to K<sub>3.09</sub>Na<sub>4.11</sub>Si<sub>2.91</sub>B<sub>1.00</sub>F<sub>21.89</sub>.

(2) K<sub>3</sub>Na<sub>4</sub>[SiF<sub>6</sub>]<sub>3</sub>[BF<sub>4</sub>].

**Occurrence:** On altered pyroclastic breccia in an active low-temperature volcanic fumarole.

**Association:** Hieratite, avogadrite, demartinite.

**Distribution:** La Fossa crater, Vulcano, Aeolian Islands, Sicily, Italy.

**Name:** An acronym based on the chemical symbols for its essential components.

**Type Material:** Dipartimento di Chimica Strutturale e Stereochimica Inorganica, Università degli Studi, Milan, Italy, 2006-03.

**References:** (1) Demartin, F., C.M. Gramaccioli, I. Campostrini, and P. Orlandi (2008) Knasibfite, K<sub>3</sub>Na<sub>4</sub>[SiF<sub>6</sub>]<sub>3</sub>[BF<sub>4</sub>], a new hexafluorosilicate–tetrafluoroborate from La Fossa crater, Vulcano, Aeolian Islands, Italy. *Can. Mineral.*, 46, 447–453. (2) (2008) *Amer. Mineral.*, 93, 1943 (abs. ref. 1).