

Crystal Data: Hexagonal. *Point Group:* 6/m. As acicular to slender terminated prismatic crystals to 0.5 mm.

Physical Properties: *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 3.589

Optical Properties: Translucent. *Color:* Colorless to white. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (+). $\omega = 1.59(1)$ $\varepsilon = 1.60(1)$ $n(\text{calc.}) = 1.620$ Nonpleochroic.

Cell Data: *Space Group:* P6₃/m. $a = 9.626(3)$ $c = 6.880(3)$ $Z = 2$

X-ray Powder Pattern: La Fossa Crater, Vulcano, Aeolian Islands, Sicily, Italy. 2.853 (100), 2.775 (85), 3.432 (45), 1.965 (35), 2.306 (25), 4.787 (20), 2.312 (20)

Chemistry:	(1)	(2)
Na ₂ O	20.65	19.85
K ₂ O	0.96	
Bi ₂ O ₃	32.49	37.30
SO ₃	41.27	38.34
Cl	4.02	5.68
Br	0.75	
H ₂ O	[0.57]	
- O = (Cl + Br)	0.98	1.28
Total	99.73	100.00

(1) La Fossa Crater, Vulcano, Aeolian Islands, Sicily, Italy; electron microprobe analysis, H₂O from structure refinement; corresponds to Na₂(Na_{1.95}K_{0.12}Bi³⁺_{0.83})_{Σ=2.90}S_{3.06}O_{12.08}[Cl_{0.67}Br_{0.06}(H₂O)_{0.19}]_{Σ=0.92}.
 (2) Na₂(Na₂Bi)(SO₄)₃Cl.

Mineral Group: Isotypic with apatite.

Occurrence: On altered pyroclastic breccia in an active medium-temperature intracrater volcanic fumarole.

Association: Alunite, anhydrite, demicheleite-(Br), demicheleite-(Cl), bismuthinite, panichiite.

Distribution: From La Fossa Crater, Vulcano, Aeolian Islands, Sicily, Italy.

Name: From Aiolos (Αἰόλος, Latinized to Aeolus), the god of the winds in Greek mythology. The type locality, the Aeolian Islands (*Isole Eolie* in Italian) took their name from him.

Type Material: Reference Collection, Department of Structural Chemistry and Inorganic Stereochemistry, University of Milan, Italy (2008-3).

References: (1) Demartin, F., C.M. Gramaccioli, I. Campostrini, and T. Pilati (2010) Aiolosite, Na₂(Na₂Bi)(SO₄)₃Cl, a new sulfate isotypic to apatite from La Fossa Crater, Vulcano, Aeolian Islands, Italy. *Amer. Mineral.*, 95, 382-385.