

Crystal Data: Monoclinic. *Point Group:* *m*. Displaying forms {012}, {210}, {101}, $\{\bar{1}01\}$ and {010}, crystals are well-formed equant to short prismatic, to 0.1 mm.

Physical Properties: *Cleavage:* None. *Fracture:* n.d. *Tenacity:* n.d. *Hardness* = 1.5-2
D(meas.) = 2.41(1) D(calc.) = 2.397

Optical Properties: Translucent. *Color:* Brown to dark brown. *Streak:* Brown. *Luster:* Vitreous.
Optical Class: Biaxial (-). $\alpha = 1.585(3)$ $\beta = 1.615(3)$ $\gamma = 1.630(3)$

Cell Data: *Space Group:* *Cc*. $a = 18.284(4)$ $b = 12.073(2)$ $c = 9.535(2)$ $Z = 4$

X-ray Powder Pattern: La Fossa crater, Vulcano, Aeolian Islands, Sicily, Italy.
2.812 (100), 2.664 (77), 3.297 (28), 3.208 (14), 3.008 (12), 2.942 (11), 7.36 (8)

Chemistry:	(1)	(2)
(NH ₄) ₂ O	[9.64]	10.91
K ₂ O	8.61	6.58
Na ₂ O	8.72	8.65
FeO	[8.75]	10.03
Fe ₂ O ₃	[9.72]	11.15
MnO	1.21	
Al ₂ O ₃	0.87	
SO ₃	32.93	33.53
Cl	24.70	24.74
<u>-O=Cl</u>	<u>5.58</u>	<u>5.59</u>
Total	99.57	100.00

(1) La Fossa crater, Vulcano, Sicily, Italy; average of 12 electron microprobe analyses, (NH₄)₂O calculated from stoichiometry and confirmed by IR spectroscopy, Fe²⁺/Fe³⁺ calculated from structure analysis; corresponding to (NH₄)_{2.68}K_{1.32}Na_{2.04}Fe_{1.76}Al_{0.12}Mn_{0.12}S_{2.98}O_{11.95}Cl_{5.05}.

(2) (NH₄)₃KNa₂Fe²⁺Fe³⁺(SO₄)₃Cl₅.

Occurrence: A sublimate on pyroclastic breccia in a medium temperature (~250°C) intracrater active volcanic fumarole.

Association: Salammoniac, kremersite, adranosite.

Distribution: (Fumarole FA) at La Fossa crater, Vulcano, Aeolian Islands, Sicily, Italy.

Name: For the type locality, *Therasia*, one of the ancient names for Vulcano island (from the Greek for “warm earth”).

Type Material: In the Reference Collection, Department of Chemistry, University of Milan, Italy (specimen number 2013-01).

References: (1) Demartin, F., C. Castellano, and I. Campostrini (2014) Therasiaite, (NH₄)₃KNa₂Fe²⁺Fe³⁺(SO₄)₃Cl₅, a new sulfate chloride from La Fossa Crater, Vulcano, Aeolian islands, Italy. *Mineral. Mag.*, 78(1), 203-213. (2) (2014) *Amer. Mineral.*, 99, 1811 (abs. ref. 1).