

Crystal Data: Hexagonal. *Point Group:* 622. As rosettes or subparallel aggregates to $\sim 300 \mu\text{m}$, of hexagonal plates flattened on {001} and bounded by {100}.

Physical Properties: *Cleavage:* Perfect on {001}. *Fracture:* Irregular. *Tenacity:* Brittle. Hardness = n.d. $D(\text{meas.}) = 2.89(1)$ $D(\text{calc.}) = 2.911$

Optical Properties: Transparent to translucent. *Color:* Colorless to white. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Uniaxial (-). $\omega = 1.810(6)$ $\varepsilon = 1.650(5)$

Cell Data: Space Group: *P622*. $a = 5.2411(7)$ $c = 12.5948(25)$ $Z = 2$

X-ray Powder Pattern: "Bocca Grande" fumarole, Solfatara di Pozzuoli, near Naples, Italy. 6.32 (100), 4.547 (75), 4.218 (47), 2.627 (46), 3.094 (45), 2.428 (31), 1.820 (28)

Chemistry:	(1)
K ₂ O	1.05
As ₂ O ₃	74.16
Cl	11.96
Br	0.44
(NH ₄) ₂ O	[9.04]
H ₂ O	[3.35]
<u>-O = Cl, Br</u>	<u>2.75</u>
Total	97.25

(1) "Bocca Grande" fumarole, Solfatara di Pozzuoli, near Naples, Italy; average of 6 EDS analyses supplemented by FTIR spectroscopy, H₂O and (NH₄)₂O calculated from stoichiometry; corresponds to $[(\text{NH}_4)_{0.94}\text{K}_{0.06}]_{\Sigma=1.00}(\text{Cl}_{0.91}\text{Br}_{0.01})_{\Sigma=0.92}\text{As}_{2.02}\text{O}_3(\text{H}_2\text{O})_{0.5}$.

Occurrence: Found as a sublimate around a volcanic fumarole.

Association: Alacránite, dimorphite, realgar, mascagnite, salammoniac, amorphous arsenic sulfide.

Distribution: At the "Bocca Grande" fumarole, Solfatara di Pozzuoli, near Pozzuoli, Campi Flegrei area, Naples, Italy.

Name: Honors Dr. Massimo Russo (b. 1960), the Vesuvius Observatory, National Institute of Geophysics and Volcanology, Naples, for his contributions to the mineralogy of Italian volcanoes.

Type Material: Reference collection, Department of Structural Chemistry, University of Milan, Italy (2015-01).

References: (1) Campostrini, I., F. Demartin, and M. Scavini (2019) Russoite, $\text{NH}_4\text{ClAs}_3^{3+}_2\text{O}_3(\text{H}_2\text{O})_{0.5}$, a new phylloarsenite mineral from Solfatara Di Pozzuoli, Napoli, Italy. *Mineral. Mag.*, 83(1), 89-94. (2) (2020) *Amer. Mineral.*, 105(10), 1603-1604 (abs. ref. 1).