

Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. Crystals show {112}, {113}, {011}, rarely {001}; commonly with stepped or curved faces, skeletal or dendritic, to 5 cm; stalactitic, or in crusts, fibrous, earthy. *Twining:* On {111}, may be cyclic.

Physical Properties: *Cleavage:* {111}, imperfect. *Fracture:* Conchoidal. *Tenacity:* Between brittle and sectile; very plastic. Hardness = 1–2 D(meas.) = 1.532 D(calc.) = 1.535 Soluble in H₂O; stinging salty taste.

Optical Properties: Transparent. *Color:* Colorless, white, pale gray, may be pale yellow to brown if impure; colorless in transmitted light. *Luster:* Vitreous. *Optical Class:* Isotropic; may be weakly anisotropic. $n = 1.639(1)$

Cell Data: *Space Group:* $Pm\bar{3}m$ (synthetic). $a = 3.8756$ $Z = 1$

X-ray Powder Pattern: Synthetic.
2.740 (100), 3.87 (25), 1.582 (25), 1.939 (8), 1.733 (6), 1.370 (6), 1.225 (6)

Chemistry: Identification relies on correspondence of properties with synthetic material.

Occurrence: A sublimation product around volcanic fumaroles; in burning coal seams and waste piles; in guano deposits. The ammonia usually is derived from organic matter.

Association: Sulfur (fumaroles); realgar, orpiment, sulfur, mascagnite, tschermigite (burning coal).

Distribution: Fumarolic on: Vesuvius, Campania; Etna, Sicily; Stromboli and Vulcano, Lipari Islands, Italy. From Mount Pelée, Martinique, West Indies. At Hekla, Iceland. On Parícutin, Michoacán, Mexico. At Kilauea, Hawaii, USA. From the Kukhi-Malik area, near Rarat, Tajikistan. With burning coal at: Duttweiler, near Saarbrücken, Saarland, Germany. At Saint-Etienne, Loire, France. From Newcastle, Northumberland, England. On Mt. Pyramide, Spitsbergen, Norway. In the USA, at the Hope Ranch, Santa Barbara Co., California. In guano on: Cincha and Guañape Islands, Peru. At [??ck-a Province??] Tarapacá, Chile.

Name: From the Greek, *sal ammoniac*, applied in antiquity to the synthetic compound.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 15–18. (2) (1953) NBS Circ. 539, 1, 59.