

Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. As coatings, massive.

Physical Properties: Hardness = Soft. $D(\text{meas.}) = 2.90$ (synthetic). $D(\text{calc.}) = [2.91]$
Very deliquescent; hydrolyzed by H₂O to hydrous iron oxide.

Optical Properties: Semitransparent. *Color:* Brownish red or yellowish.
Optical Class: Uniaxial (-); very strong birefringence. $\omega = \text{n.d.}$ $\epsilon = \text{n.d.}$

Cell Data: *Space Group:* $R\bar{3}$ (synthetic). $a = 6.065$ $c = 17.42$ $Z = [6]$

X-ray Powder Pattern: Synthetic.
2.68 (100), 2.08 (40), 5.9 (32), 1.75 (32), 1.63 (16), 1.67 (6), 4.79 (< 6)

Chemistry: Natural material has not been analyzed.

Occurrence: A volcanic sublimate.

Association: Tridymite, hematite, anhydrite, halite (Augustine volcano, Alaska, USA).

Distribution: In Italy, from Vesuvius, Campania; at Larderello, Val di Cecina, Tuscany; and on Vulcano, Lipari Islands. From the Tolbachik fissure volcano, Kamchatka Peninsula, Russia. Found on the Augustine volcano, Augustine Island, near the Kenai Peninsula, Alaska, USA.

Name: From the Greek for *a stain*, as it stains the host rock.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 47–48. (2) Hashimoto, S., K. Forster, and S.C. Moss (1989) Structure refinement of an FeCl₃ crystal using a thin plate sample. *J. Applied Cryst.*, 22, 173–180.