

Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. As cubes, cubo-octahedra, and octahedra, to 15 cm; may be columnar, in crusts, coarse granular to compact, massive.

Physical Properties: *Cleavage:* {001}, perfect. *Fracture:* Uneven. *Tenacity:* Brittle, ductile under low strain. Hardness = 2 D(meas.) = 1.993(5) D(calc.) = 1.987 Soluble in H₂O; salty taste, with bitter overtones.

Optical Properties: Transparent. *Color:* Colorless to white, pale gray, pale blue; yellowish red to red when included with hematite; colorless in transmitted light. *Luster:* Vitreous.

Optical Class: Isotropic; anomalously weakly anisotropic when strained. $n = 1.4903$

Cell Data: *Space Group:* $Fm\bar{3}m$ (synthetic). $a = 6.2931$ $Z = 4$

X-ray Powder Pattern: Synthetic.

3.146 (100), 2.224 (59), 1.816 (23), 1.407 (20), 1.284 (13), 1.573 (8), 1.0490 (6)

Chemistry: Typically nearly pure KCl.

Occurrence: In sedimentary basins, forming thick bedded deposits with halite; as a sublimate in volcanic fumaroles; in nitrate beds and cave deposits; a product of burning coal; may be included in other minerals as a product of intermediate-grade metamorphism.

Association: Halite, kieserite, kainite, carnallite, polyhalite, gypsum, anhydrite.

Distribution: On Vesuvius, Campania, Italy. At Hallein, Salzburg, Austria. In Germany, from Westeregeln and Stassfurt, 34 km south of Magdeburg, Saxony-Anhalt, and at Bernburg, Lower Saxony. At Aislaby, near Whitby, Yorkshire, England. From Kalusz, Ukraine. In the Verkhnekamsk sylvite deposit, Solikamsk-Berezniki region, Ural Mountains, Russia. In the USA, in the Permian salt basin of southeastern New Mexico, in the Carlsbad potash district, Eddy Co. with large crystals in the Potash Corporation of America mine, and adjacent parts of Texas. From the Smoky Hills, Peace River area, Alberta, Canada. Other minor localities are known.

Name: From the alchemical *Sal digestivus Sylvii* or *Salt of Sylvius*, the digestive salt of François Sylvius de le Boë (1614–1672), Dutch physician and chemist of Leiden, Netherlands.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 7–9. (2) (1953) NBS Circ. 539, 1, 65.