

Crystal Data: Cubic. *Point Group:* $4/m\bar{3}2/m$. Octahedral, dodecahedral, cubic, or in combinations thereof, to 3 cm.

Physical Properties: *Fracture:* Conchoidal. Hardness = ~3.5 D(meas.) = 2.489–2.500 D(calc.) = 2.505 Slowly soluble in H₂O, with a mildly saline taste.

Optical Properties: Transparent. *Color:* Colorless, pale greenish yellow or gray; colorless in transmitted light. *Luster:* Vitreous to greasy.

Optical Class: Isotropic. $n = 1.455(1)$

Cell Data: *Space Group:* $Fm\bar{3}m$. $a = 10.068(3)$ $Z = 4$

X-ray Powder Pattern: Searles Lake, California, USA.

3.56 (10), 2.91 (8), 1.779 (6.5), 2.51 (6), 1.939 (5), 3.03 (4), 2.249 (2.5)

Chemistry:

	(1)	(2)
SO ₃	41.79	41.64
Na ₂ O	32.37	48.36
Na	11.60	
K ₂ O	0.10	
F	4.71	4.94
Cl	9.10	9.22
LOI	0.15	
—O = (F, Cl) ₂		4.16
Total	99.82	100.00

(1) Searles Lake, California, USA. (2) Na₆(SO₄)₂FCl.

Occurrence: In evaporite deposits (Searles Lake, California, USA; Otjiwalundo salt pan, Namibia); a volcanic sublimate (Kamchatka Peninsula, Russia).

Association: Hanksite, halite (Searles Lake, California, USA); trona, thénardite, pirssonite (Otjiwalundo salt pan, Namibia).

Distribution: In the USA, from Searles Lake, San Bernardino Co., California. In the Otjiwalundo salt pan, about 400 km west-northwest of Otavi, Namibia. From volcanoes on the Kamchatka Peninsula, Russia.

Name: In allusion to *sulfur* and sodium chloride, (*halite*), in the composition, neglecting fluorine, the presence of which was unnoticed in the original analysis of type material.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 548–549. (2) Pabst, A., D.L. Sawyer, and G. Switzer (1963) Galeite and related phases in the system Na₂SO₄–NaF–NaCl. *Amer. Mineral.*, 48, 485–510. (3) Sakamoto, Y. (1968) The size, atomic charges, and motion of the sulfate radical of symmetry $\bar{4}3m$ in the crystal of sulphohalite, Na₆ClF(SO₄)₂. *J. Sci. Hiroshima Univ., Ser. A-II*, 32(1), 101–108 (in English).