

**Sarcolite****NaCa<sub>6</sub>Al<sub>4</sub>Si<sub>6</sub>O<sub>24</sub>F(?)**

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**Crystal Data:** Tetragonal. *Point Group:* 4/*m*. As equant pseudocubic hemihedral crystals, to 2.5 cm; in irregular masses.

**Physical Properties:** *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 6  
D(meas.) = 2.91–2.96 D(calc.) = 2.82–2.90

**Optical Properties:** Transparent. *Color:* Flesh-pink, colorless. *Luster:* Vitreous.  
*Optical Class:* Uniaxial (+).  $\omega = 1.604(1)$   $\epsilon = 1.613(2)$

**Cell Data:** *Space Group:* I4/*m*.  $a = 12.343(5)$   $c = 15.463(5)$  Z = 4

**X-ray Powder Pattern:** Monte Somma, Italy.  
2.747 (100), 3.343 (90), 2.853 (87), 2.762 (69), 2.941 (64), 3.215 (51), 2.998 (51)

<b>Chemistry:</b>	(1)	(2)	(3)
SiO <sub>2</sub>	36.2	35.6	38.23
TiO <sub>2</sub>	0.09	0.14	
Al <sub>2</sub> O <sub>3</sub>	19.2	18.6	21.63
FeO	0.32	0.43	
MnO	0.09	0.07	
MgO	0.29	0.38	
CaO	34.4	34.4	35.68
SrO	0.1	0.37	
Na <sub>2</sub> O	3.79	2.58	3.29
K <sub>2</sub> O	0.36	0.36	
F	1.19	1.01	2.02
Cl	0.01	0.01	
P <sub>2</sub> O <sub>5</sub>	1.44	1.60	
SO <sub>3</sub>	0.13	3.14	
–O = Cl <sub>2</sub>	0.50	0.43	0.85
Total	97.11	98.26	100.00

(1) Monte Somma, Italy; by electron microprobe. (2) Anguillara Sabazia, Italy; by electron microprobe. (3) NaCa<sub>6</sub>Al<sub>4</sub>Si<sub>6</sub>O<sub>24</sub>F.

**Occurrence:** In contact metamorphosed limestone-bearing volcanic ejecta.

**Association:** Augite, gehlenite, garnet (Monte Somma, Italy); augite, haüyne, fluorite (Anguillara Sabazia, Italy).

**Distribution:** In Italy, at Monte Somma and Vesuvius, Campania, and Anguillara Sabazia, Lazio.

**Name:** From the Greek for *flesh*, alluding to the color.

**Type Material:** The Natural History Museum, London, England, 1960,629.

**References:** (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 474.  
(2) Livingstone, A. (1984) Fluorine in sarcolite: additional history and new chemical data. *Mineral. Mag.*, 48, 107–112. (3) (1985) *Amer. Mineral.*, 70, 441 (abs. ref. 2). (4) Giuseppetti, G., F. Mazzi, and C. Tadini (1977) The crystal structure of sarcolite. *Tschermaks Mineral. Petrog. Mitt.*, 24, 1–21. (5) Maras, A. and E. Paris (1987) The crystal chemistry of sarcolite. *Can. Mineral.*, 25, 731–737.