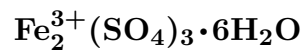


# Lausenite



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**Crystal Data:** Monoclinic. *Point Group:* n.d. Fibrous, elongated along [001], to 0.5 mm; in fine-grained lumpy to chalky aggregates.

**Physical Properties:** Hardness = n.d. D(meas.) = n.d. D(calc.) = n.d. May be partially soluble in H<sub>2</sub>O.

**Optical Properties:** Semitransparent. *Color:* White; colorless in transmitted light.

*Luster:* Silky.

*Optical Class:* Biaxial (-). *Orientation:*  $X \wedge c = 27^\circ$ .  $\alpha = 1.548\text{--}1.598$   $\beta = 1.628(5)$   
 $\gamma = 1.600\text{--}1.654$  2V(meas.) = Large to small.

**Cell Data:** *Space Group:* n.d.  $Z = \text{n.d.}$

**X-ray Powder Pattern:** Velikomostov-2 mine, Ukraine.

3.52 (10), 3.38 (10), 2.065 (6), 3.03 (5), 2.85 (5), 5.555 (4), 4.82 (3)

## Chemistry:

	(1)	(2)	(3)
SO <sub>3</sub>	47.90	49.43	47.28
SiO <sub>2</sub>		1.90	
Al <sub>2</sub> O <sub>3</sub>	1.40	7.72	
Fe <sub>2</sub> O <sub>3</sub>	28.07	12.63	31.44
FeO		0.17	
MgO		6.38	
CaO		0.52	
Na <sub>2</sub> O	1.23	0.84	
K <sub>2</sub> O	0.06	0.34	
H <sub>2</sub> O	20.64	19.73	21.28
Total	99.30	99.66	100.00

(1) United Verde mine, Arizona, USA; corresponds to  $(\text{Fe}_{1.76}\text{Al}_{0.14})_{\Sigma=1.90}(\text{SO}_4)_3 \cdot 6\text{H}_2\text{O}$ .

(2) Velikomostov-2 mine, Ukraine; after deduction of kieserite, stated to correspond to  $(\text{Fe}_{1.03}\text{Al}_{1.00})_{\Sigma=2.03}(\text{SO}_4)_3 \cdot 6\text{H}_2\text{O}$ . (3)  $\text{Fe}_2(\text{SO}_4)_3 \cdot 6\text{H}_2\text{O}$ .

**Occurrence:** A very rare mineral, formed as the result of burning of a pyritic orebody (United Verde mine, Arizona, USA); on a burning waste heap formed by oxidation of pyrite reacting with clay (Velikomostov-2 mine, Ukraine).

**Association:** Copiapite (United Verde mine, Arizona, USA); kieserite (Velikomostov-2 mine, Ukraine).

**Distribution:** From the United Verde mine, Jerome, Yavapai Co., Arizona, USA. At the Velikomostov-2 coal mine, L'vov-Volyn' Basin, Ukraine.

**Name:** Honoring Carl B. Lausen, geologist, United Verde Mining Co., Jerome, Arizona, USA, who discovered the mineral.

**Type Material:** University of Arizona, Tucson, Arizona, M53; Harvard University, Cambridge, Massachusetts, USA, 90537.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 530. (2) Srebrodol'skii, B.I. (1974) Lausenite, first find in the USSR. Doklady Acad. Nauk SSSR, 219, 441–442 (in Russian).