

Wenkite**Ba₄Ca₆(Si, Al)₂₀O₃₉(OH)₂(SO₄)₃ · nH₂O(?)**

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Crystal Data: Hexagonal. *Point Group:* $\bar{6}m2$. Columnar crystals, to 5 cm.**Physical Properties:** *Cleavage:* Prismatic, very poor; pinacoidal parting. *Tenacity:* Brittle. Hardness = 6 D(meas.) = 3.19–3.24 D(calc.) = 3.276**Optical Properties:** Transparent. *Color:* Bright gray. *Luster:* Vitreous to pearly, somewhat greasy on fractures.*Optical Class:* Uniaxial (-); may be anomalously biaxial. $\omega = 1.595$ $\epsilon = 1.589$
 $2V(\text{meas.}) = \sim 10^\circ$ **Cell Data:** *Space Group:* $P\bar{6}2m$. $a = 13.37\text{--}13.51$ $c = 7.46\text{--}7.70$ $Z = 1$ **X-ray Powder Pattern:** Candoglia, Italy.

3.457 (100), 3.146 (78), 2.684 (65), 3.245 (63), 3.378 (60), 2.233 (57), 3.555 (54)

Chemistry:	(1)	(2)	(1)	(2)
SiO ₂	31.0	25.10	K ₂ O	0.7
TiO ₂		0.04	F	0.08
Al ₂ O ₃	19.8	23.00	Cl	trace
Fe ₂ O ₃		0.14	H ₂ O ⁺	1.53
MnO		0.13	H ₂ O ⁻	0.14
CaO	10.0	13.30	H ₂ O	2.3
SrO	0.8		SO ₃	6.7
BaO	27.6	24.40	rem.	1.42
Na ₂ O	0.6	0.72		
			Total	99.5
				100.42

(1) Candoglia, Italy. (2) Karagaila deposit, Russia; corresponds to Ba_{3.7}(Ca_{5.5}Na_{0.5})_{Σ=6.0}(Si_{9.6}Al_{10.3})_{Σ=19.9}O_{38.9}[(OH), F, Cl]_{4.5}(SO₄)_{2.9}.**Mineral Group:** Cancrinite group.**Occurrence:** Formed between barite layers and calc-silicate rock, a product of strong metamorphism of marbles (Candoglia, Italy).**Association:** Barite, calcite (Candoglia, Italy).**Distribution:** At Cava Mergozzoni, Candoglia, Piedmont, Italy. From the Karagaila barite deposit, "central Asia," Russia.**Name:** For Professor Eduard Wenk (1907–), mineralogist and petrologist, University of Basel, Basel, Switzerland.**Type Material:** Natural History Museum, Basel, Switzerland, MB14577.**References:** (1) Papageorgakis, J. (1962) Wenkit, ein neues Mineral von Candoglia. Schweiz. Mineral. Petrog. Mitt., 42, 269–274 (in German with English abs.). (2) (1963) Amer. Mineral., 48, 213 (abs. ref. 1). (3) Wenk, H.-R. (1966) New X-ray data for wenkite. Schweiz. Mineral. Petrog. Mitt., 46, 85–88. (4) Yanulova, M.K., E.M. Baigulov, and R.P. Zaitseva (1971) Wenkite in ores from the Karagaila deposit. Zap. Vses. Mineral. Obshch., 100, 492–498 (in Russian). (5) (1971) Chem. Abs., 75, 131586 (abs. ref. 4). (6) Wenk, H.-R. (1973) The structure of wenkite. Zeits. Krist., 137, 113–126. (7) Merlino, S. (1974) The crystal structure of wenkite. Acta Cryst., 30, 1262–1266.