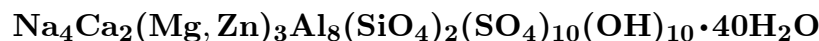


Chessexite

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Crystal Data: Orthorhombic. *Point Group:* n.d. As euhedral, thin, square or rectangular plates, to 0.03 mm.

Physical Properties: *Cleavage:* Indistinct || [101]. *Hardness* = n.d. *D(meas.)* = n.d. *D(calc.)* = 2.21

Optical Properties: Semitransparent. *Color:* White. *Luster:* Silky.

Optical Class: Biaxial (+). *Orientation:* $X = a$; $Y = c$; $Z = b$. $\alpha = 1.456$ $\beta = 1.460$
 $\gamma = 1.480$ $2V(\text{meas.}) = 47^\circ$

Cell Data: *Space Group:* n.d. $a = 13.70$ $b = 27.96$ $c = 9.99$ $Z = 2$

X-ray Powder Pattern: Maine mine, France.

13.91 (100), 3.422 (100), 4.85 (90), 3.982 (60), 3.451 (40), 3.322 (40), 2.908 (30)

Chemistry:

	(1)
SiO ₂	3.64
Al ₂ O ₃	15.30
ZnO	3.73
MgO	3.50
CaO	3.92
Na ₂ O	4.44
K ₂ O	0.30
H ₂ O	31.11
SO ₃	31.91
Total	97.85

(1) Maine mine, France; Ca, Mg, Zn, Si, and Al by AA, Na and K by flame photometry, S by chromatography, and H₂O by TGA; corresponds to $(\text{Na}_{3.75}\text{K}_{0.17}\text{Ca}_{0.08})_{\Sigma=4.00}(\text{Ca}_{1.75}\text{Mg}_{0.25})_{\Sigma=2.00}(\text{Mg}_{1.87}\text{Zn}_{1.20})_{\Sigma=3.07}(\text{Al}_{7.85}\text{Mg}_{0.15})_{\Sigma=8.00}\text{Si}_{1.58}\text{S}_{10.42}\text{O}_{53.46} \cdot 45.13\text{H}_2\text{O}$.

Occurrence: As a coating on fluorite.

Association: Fluorite, gypsum.

Distribution: From the Maine fluorite mine, near Autun, Saône-et-Loire, France.

Name: For Professor Ronald Chessex, petrographer, University of Geneva, Geneva, Switzerland.

Type Material: Natural History Museum, Geneva, Switzerland, 435/70.

References: (1) Sarp, H. and J. Deferne (1982) Le chessexite, un nouveau minéral. Schweiz. Mineral. Petrog. Mitt., 62, 337-341 (in French with English abs.). (2) (1984) Amer. Mineral., 69, 406 (abs. ref. 1).