## Mazzite-Mg $Mg_5(Si_{26}Al_{10})O_{72}\cdot 30H_2O$

**Crystal Data**: Hexagonal. *Point Group*: 6/*m* 2/*m* 2/*m*. Crystals are hexagonal prisms terminated by pinacoids. As radiating bundles of thin needles, to 4 mm.

**Physical Properties**: Hardness = 4 D(meas.) = n.d. D(calc.) = 2.11

**Optical Properties**: Transparent. *Color*: Colorless. *Streak*: White.
*Optical Class*: Uniaxial (-). $\omega$ = 1.506 $\varepsilon$ = 1.499

**Cell Data**: *Space Group*: $P6_3/mmc$. $a$ = 18.392 $c$ = 7.646 Z = [1]

**X-ray Powder Pattern**: Mont Sémiol, France.
3.185 (100), 2.941 (100), 3.824 (95), 3.531 (90), 9.20 (60), 6.02 (53), 4.729 (50)

**Chemistry**:

| | (1) |
|---|---|
| $SiO_2$ | 58.10 |
| $Al_2O_3$ | 18.14 |
| MgO | 2.92 |
| CaO | 2.75 |
| $Na_2O$ | 0.03 |
| $K_2O$ | 3.27 |
| $H_2O$ | 18.42 |
| Total | 103.63 |

(1) Mont Sémiol, France; by electron microprobe, average of three analyses, $H_2O$ by TGA; the high sum is thought due to loss of $H_2O$ in the vacuum chamber during analysis; corresponds to $(K_{1.91}Na_{0.03})_{\Sigma=1.94}Ca_{1.35}Mg_{1.99}(Si_{26.53}Al_{9.77})_{\Sigma=36.30}O_{72}\cdot 28.06H_2O$.

**Mineral Group**: Zeolite group.

**Occurrence**: In cavities in a porphyritic olivine basalt.

**Association**: Phillipsite, offretite, chabazite, calcite, siderite.

**Distribution**: On Mont Sémiol (Mont Semiouse), near Montbrison, Loire, France.

**Name**: Honors Professor Fiorenzo *Mazzi*, mineralogist, University of Pavia, Pavia, Italy, and the suffix indicates the dominance of magnesium.

**Type Material**: University of Modena, Modena, Italy; National Museum of Natural History, Washington, D.C., USA, 128520.

**References**: (1) Galli, E., E. Passaglia, D. Pongiluppi, and R. Rinaldi (1974) Mazzite, a new mineral, the natural counterpart of the synthetic zeolite. Contr. Mineral. Petrol., 45, 99-105. (2) (1975) Amer. Mineral., 60, 340 (abs. ref. 1). (3) Burke, E.A.J. and G. Ferraris (2004) New minerals approved in 2003 and nomenclature modifications approved in 2003 by the Commission on New Minerals and Mineral Names, International Mineralogical Association. Amer. Mineral., 89(10), 1573. (4) Galli, E. (1974) Mazzite, a zeolite. Cryst. Struct. Comm., 3, 339-344. (5) (1976) Mineral. Abs., 27, 300 (abs. ref. 3). (6) Gottardi, G. and E. Galli (1985) Natural zeolites. Springer, 160-163. (7) Arletti, R., E. Galli, G. Vezzalini, and W.S. Wise (2005) Mazzite-Na, a new zeolite from Boron, California: Its description and crystal structure. Amer. Mineral., 90, 1186-1191.