

**Montesommaite****(K, Na)<sub>9</sub>Al<sub>9</sub>Si<sub>23</sub>O<sub>64</sub>•10H<sub>2</sub>O**

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**Crystal Data:** Orthorhombic, pseudotetragonal. *Point Group:* *mm*2. Dipyramidal crystals, truncated by pedions, to 0.1 mm.

**Physical Properties:** Hardness = n.d. D(meas.) = 2.34(4) D(calc.) = 2.30

**Optical Properties:** Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (-). *Orientation:* *X* = *c*, *Y* = *a* or *b*, *Z* = *a* or *b*.  $\alpha = 1.498(1)$   
 $\beta = 1.506(1)$   $\gamma = 1.507(1)$   $2V(\text{meas.}) = 35(5)^\circ$   $2V(\text{calc.}) = 39^\circ$

**Cell Data:** *Space Group:* *Fdd*2. *a* = 10.099(1) *b* = 10.099(1) *c* = 17.307(3) *Z* = 1

**X-ray Powder Pattern:** Pollena, Italy.

3.299 (100), 3.130 (100), 6.589 (75), 4.334 (43), 2.797 (30), 2.347 (22), 1.784 (22)

**Chemistry:**

	(1)
SiO <sub>2</sub>	55.7
Al <sub>2</sub> O <sub>3</sub>	19.8
Na <sub>2</sub> O	0.2
K <sub>2</sub> O	16.7
H <sub>2</sub> O	[7.6]
Total	[100.0]

(1) Pollena, Italy; by electron microprobe, H<sub>2</sub>O by difference; corresponding to (K<sub>8.6</sub>Na<sub>0.2</sub>) $_{\Sigma=8.8}$  (Si<sub>22.6</sub>Al<sub>9.4</sub>) $_{\Sigma=32.00}$ O<sub>73.9</sub>H<sub>20.5</sub>.

**Mineral Group:** Zeolite group.

**Occurrence:** In volcanic scoria.

**Association:** Dolomite, calcite, chabazite, natrolite.

**Distribution:** From Pollena, Monte Somma, Campania, Italy.

**Name:** For Monte Somma, the volcano ancestral to Vesuvius, Italy, in the remnants of which the mineral occurs.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, 165440.

**References:** (1) Rouse, R.C., P.J. Dunn, J.D. Grice, J.L. Schlenker, and J.B. Higgins (1990) Montesommaite, (K, Na)<sub>9</sub>Al<sub>9</sub>Si<sub>23</sub>O<sub>64</sub>•10H<sub>2</sub>O, a new zeolite related to merlinoite and the gismondine group. *Amer. Mineral.*, 75, 1415–1420.