Ghiaraite $CaCl_2 \cdot 4H_2O$

Crystal Data: Triclinic. *Point Group*: $\bar{1}$. As intergrown equant grains, to 6 μm.

Physical Properties: *Cleavage*: n.d. *Fracture*: n.d. *Tenacity*: n.d. Hardness = n.d. D(meas.) = 1.826(3) (synthetic α-$CaCl_2 \cdot 4H_2O$) D(calc.) = 1.838 Strongly deliquescent.

Optical Properties: Translucent. *Color*: Milky white to light gray. *Streak*: n.d. *Luster*: n.d. *Optical Class*: Biaxial (–). α = 1.530 β = 1.557 γ = 1.567 (synthetic α-$CaCl_2 \cdot 4H_2O$) 2V(meas.) = n.d. 2V(calc.) = n.d.

Cell Data: *Space Group*: $P\bar{1}$. a = 6.3660(5) b = 6.5914(5) c = 8.5568(6) α = 93.504(6)° β = 97.778(7)° γ = 110.557(6)° Z = 2 (synthetic α-$CaCl_2 \cdot 4H_2O$)

X-ray Powder Pattern: Massa di Somma, Vesuvius, Italy.
2.628 (100), 2.717 (88), 4.600 (88), 2.939 (77), 2.204 (75), 5.874 (73), 6.124 (47)

Chemistry:
(1) Qualitative SEM-EDS analysis identified dominant chlorine and calcium. Water content not determined analytically.

Occurrence: In volcanic ejecta on the surface of a lava flow.

Association: Chlorocalcite ($KCaCl_3$), hematite, sylvite, halite.

Distribution: From Massa di Somma, Vesuvius, Italy.

Name: Honors Maria Rosaria Ghiara (b. 1948), Head of Real Museo Mineralogico of Napoli and Centro Musei delle Scienze Naturali e Fisiche dell'Università degli Studi di Napoli Federico II for promoting scientific research on the mineralogy of Vesuvius volcano.

Type Material: Mineral collection "Vesuviana", Real Museo Mineralogico di Napoli, Italy (16986-E5525).

References: (1) Rossi, M., F. Nestola, F. Zorzi, A. Lanza, L. Peruzzo, A. Guastoni, and A. Kasatkin (2014) Ghiaraite: A new mineral from Vesuvius volcano, Naples (Italy). Amer. Mineral., 99, 519-524.