

**Amicite****K<sub>2</sub>Na<sub>2</sub>Al<sub>4</sub>Si<sub>4</sub>O<sub>16</sub>•5H<sub>2</sub>O**

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**Crystal Data:** Monoclinic, pseudotetragonal. *Point Group:* 2. As well-formed pseudotetragonal pyramidal crystals, to 5 mm, showing {011} and {110}, or more rarely {111} and {110}.

**Physical Properties:** Hardness = ~4.5 D(meas.) = 2.06–2.23 D(calc.) = 2.146–2.178

**Optical Properties:** Transparent. *Color:* Colorless. *Luster:* Vitreous. *Streak:* White. *Optical Class:* Biaxial (-). *Orientation:* X = b; Z ∧ c = 12°. α = 1.485 β = 1.490 γ = 1.494 2V(meas.) = 82°

**Cell Data:** *Space Group:* I2. a = 10.226–10.26 b = 10.422–10.44 c = 9.884–9.92 β = 88°19′–91°30′ Z = [2]

**X-ray Powder Pattern:** Hegau, Germany. 2.722 (100), 4.220 (90), 3.141 (80), 7.295 (55), 2.704 (50), 3.238 (45), 5.108 (40)

**Chemistry:**

	(1)	(2)
SiO <sub>2</sub>	36.38	34.81
Al <sub>2</sub> O <sub>3</sub>	29.46	29.53
Fe <sub>2</sub> O <sub>3</sub>	trace	
MgO	trace	
CaO	0.22	
SrO	0.03	
BaO	trace	
Na <sub>2</sub> O	8.22	8.98
K <sub>2</sub> O	12.96	13.64
H <sub>2</sub> O	12.80	13.04
Total	100.07	100.00

(1) Hegau, Germany; by electron microprobe; corresponds to K<sub>1.88</sub>Na<sub>1.80</sub>Ca<sub>0.02</sub>Al<sub>3.93</sub>Si<sub>4.12</sub>O<sub>16</sub>•4.84H<sub>2</sub>O. (2) K<sub>2</sub>Na<sub>2</sub>Al<sub>4</sub>Si<sub>4</sub>O<sub>16</sub>•5H<sub>2</sub>O.

**Mineral Group:** Zeolite group.

**Occurrence:** In veinlets cutting melilite-nephelinite volcanic rocks and pyroclastics (Hegau, Germany); in natrolite veinlets cutting ijolite-urtite pegmatites and apatite-nepheline rocks (Kola Peninsula, Russia).

**Association:** Merlinoite, aragonite, calcite (Hegau, Germany); natrolite (Kola Peninsula, Russia).

**Distribution:** In the Höwenegg quarry, Hegau, Baden-Württemberg, Germany. From the Kukisvumchorr apatite deposit, Khibiny massif, Kola Peninsula, Russia. In a quarry near Ciudad Real, ?? Province, Spain.

**Name:** To honor Giovan Battista Amici (1786–1863), physicist, optician, and inventor of microscope optical elements.

**Type Material:** University of Modena, Modena, Italy; The Natural History Museum, London, England; National Museum of Natural History, Washington, D.C., USA, 145843.

**References:** (1) Alberti, A., G. Hentschel, and G. Vezzalini (1979) Amicite, a new zeolite. Neues Jahrb. Mineral., Monatsh., 481–488. (2) Alberti, A. and G. Vezzalini (1979) The crystal structure of amicite, a zeolite. Acta Cryst., 35, 2866–2869. (3) (1980) Amer. Mineral., 65, 808 (abs. refs. 1 and 2). (4) Khomyakov, A.P., G.E. Cherepivskaya, T.A. Kurova, and V.V. Kaptsov (1982) First occurrence of amicite (K<sub>2</sub>Na<sub>2</sub>Al<sub>4</sub>Si<sub>4</sub>O<sub>16</sub>•5H<sub>2</sub>O) in the USSR. Doklady Acad. Nauk SSSR, 263, 978–980 (in Russian). (5) (1982) Chem. Abs., 97, 9281 (abs. ref. 4).

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