



>>Entry Name: Gismondine

Synonym(s): Gismondite (improper)

CAS Registry Number: 12251-23-9

Related CAS Registry Numbers(s): 1318-56-5

Extra CAS Registry Numbers(s): 1327-39-5

$\text{Ca}_4[\text{Al}_8\text{Si}_8\text{O}_{32}]\cdot 16\text{H}_2\text{O}$

Molecular Formula: $\text{AlCa}_2\text{H}_8\text{O}_{12}\text{Si}_2$

Molecular Weight: 363.365

Accurate Mass: 362.862155

Percentage Composition: Al 7.43%; Ca 22.06%; H 2.22%; O 52.84%; Si 15.46%

phillipsite group

Source/Synthesis: Mineral found in Israel, Senegal, Australia, USA, Ireland, Rome, Iceland, Czechoslovakia and Faeroe Islands

Physical Description: White cryst.

Other Data: Related minerals Amicite and Gobbinsite also descr.

>>Derivative: Me_4N -form

Molecular Formula: $\text{C}_4\text{H}_{14}\text{AlNO}_9\text{Si}_3$

Molecular Weight: 331.394

Accurate Mass: 330.979179

Percentage Composition: C 14.50%; H 4.26%; Al 8.14%; N 4.23%; O 43.45%; Si 25.42%

Source/Synthesis: Synthetic zeolite obtained hydrothermally at 130°

Physical Description: White cryst. Absorbs var. amts. H_2O

Other Data: Formulated as e.g. $\text{Me}_4\text{NAlSi}_3\text{O}_8\cdot\text{H}_2\text{O}$

>>Derivative: Mineral-form

Molecular Formula: $\text{Al}_2\text{CaH}_8\text{O}_{12}\text{Si}_2$

Molecular Weight: 350.268

Accurate Mass: 349.881103

Percentage Composition: Al 15.41%; Ca 11.44%; H 2.30%; O 54.81%; Si 16.04%

Source/Synthesis: Rather rare zeolite of hydrothermal origin; occurs in cavities of massive rocks

Physical Description: Colourless to white or grey solid

References:

Fischer, K., *Am. Mineral.*, 1963, **48**, 664, (*cryst struct*)

Baerlocher, C. *et al.*, *Helv. Chim. Acta*, 1970, **53**, 1285; *Z. Kristallogr.*, 1972, **135**, 339, (*synth, cryst struct*)

Alberti, A. *et al.*, *Acta Cryst. B*, 1979, **35**, 2866, (*cryst struct, amicite*)

Wirsching, U., *Clays Clay Miner.*, 1981, **29**, 171, (*synth, powder struct*)

Barrer, R.M., *Hydrothermal Chemistry of Zeolites*, Academic Press, London, 1982

Gottardi, G. *et al.*, *Natural Zeolites*, Springer, 1985, 122, (*synth, props*)

McCusker, L.B. *et al.*, *Z. Kristallogr.*, 1985, **171**, 281, (*cryst struct, gobbinsite*)

Lippmaa, E. *et al.*, *J.A.C.S.*, 1986, **108**, 1730, (*Al-27 nmr*)

Artioli, G. *et al.*, *Zeolites*, 1986, **6**, 361, (*nd*)

Meier, W.H. *et al.*, *Atlas of Zeolite Structure Types*, 2nd edn., Butterworth, London, 1987, 66