

SPECIAL NOTICE: WEB PAPER

Recommended nomenclature for zeolite minerals: Report of the subcommittee on zeolites of the International Mineralogical Association, Commission on New Minerals and Mineral Names

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ABSTRACT

This report embodies recommendations on zeolite nomenclature approved by the International Mineralogical Association Commission on New Minerals and Mineral Names. In a working definition of a zeolite mineral used for this review, interrupted tetrahedral framework structures are accepted where other zeolitic properties prevail, and complete substitution by elements other than Si and Al is allowed. Separate species are recognized in topologically distinctive compositional series in which different extra-framework cations are the most abundant in atomic proportions. To name these, the appropriate chemical symbol is attached by a hyphen to the series name as a suffix except for the names harmotome, pollucite and wairakite in the phillipsite and analcime series. Differences in space-group symmetry and in order—disorder relationships in zeolites having the same topologically distinctive framework do not in general provide adequate grounds for recognition of separate species. Zeolite species are not to be distinguished solely on Si : Al ratio except for the heulandite (Si : Al < 4.0) and clinoptilolite (Si : Al ≥ 4.0) series. Dehydration, partial hydration, and over-hydration are not sufficient grounds for the recognition of separate species of zeolites. Use of the term “ideal formula” should be avoided in referring to a simplified or averaged formula of a zeolite.

Newly recognized species in compositional series are as follows: brewsterite-Sr, -Ba; chabazite-Ca, -Na, -K; clinoptilolite-K, -Na, -Ca; dachiardite-Ca, -Na; erionite-Na, -K, -Ca; faujasite-Na, -Ca, -Mg; ferrierite-Mg, -K, -Na; gmelinite-Na, -Ca, -K; heulandite-Ca, -Na, -K, -Sr; levyne-Ca, -Na; paulingite-K, -Ca; phillipsite-Na, -Ca, -K; stilbite-Ca, -Na.

Key references, type locality, origin of name, chemical data, IZA structure-type symbols, space-group symmetry, unit-cell dimensions, and comments on structure are listed for 13 compositional series, 82 accepted zeolite mineral species, and three of doubtful status. Herschelite, leonhardite, svetlozarite, and wellsite are discredited as mineral species names. Obsolete and discredited names are listed.

The complete report is available on the *American Mineralogist* web site (<http://www.minsocam.org/AmMin/ammin.html>). Click on Special Features. A printed version of the complete report may be found in *Canadian Mineralogist* (1997, Vol. 35, pages 1571–1606), *European Journal of Mineralogy* (1998, in press), and *Mineralogical Magazine* (1998, Vol. 62, pages 533–571).