

# NEW CHALLENGES IN MINERAL NOMENCLATURE AND CLASSIFICATION

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## CNMNC, mineral nomenclature, classification

The Commission on New Minerals, Nomenclature and Classification (CNMNC) of the IMA was established in 2006, by merging the Commission on New Minerals and Mineral Names (CNMMN) with the Commission on Classification of Minerals (CCM). The roles of CNMNC are of prime importance for the mineralogical community: validation of new mineral species, validation of mineral names, nomenclature of minerals (redefinitions, discreditations, revalidations, renamings, modifications of chemical formulae,...), group nomenclature, classification issues. However, the guidelines of CNMNC are not always easy to establish, due to the complex crystal-chemistry of minerals, and to the diversity of scientific disciplines involved in Mineralogy. In this talk, we will describe a few examples of challenging nomenclature and classification issues, which were handled by the CNMNC these last years. (i) The first issue concerns the definition of new mineral species (Hatert & Burke, 2008): what is the boundary between two species affected by complex substitution mechanisms? Are you allowed to define a mineral species with two atoms on the same crystallographic site? Or, on the contrary, is it possible to group crystallographic sites together for nomenclature purposes? (ii) The second issue concerns the naming of minerals (Hatert *et al.*, 2013): what are the guidelines for the use of chemical prefixes and suffixes? Are you allowed to modify historical mineral names for nomenclature purposes? How to use structural prefixes in mineral names? (iii) The last issue concerns mineral classification (Mills *et al.*, 2009): which are the guidelines to classify minerals? Is it possible to establish an official CNMNC-approved classification of minerals? By answering these questions, we hope to clarify some recent CNMNC guidelines and to explain the next steps of mineral nomenclature.

Hatert, F. & Burke, E.A.J. (2008): The IMA-CNMNC dominant-constituent rule revisited and extended. *Can. Mineral.*, **46**, 717-728.

Hatert, F., Mills, S.J., Pasero, M. & Williams, P.A. (2013): CNMNC guidelines for the use of suffixes and prefixes in mineral nomenclature, and for the preservation of historical names. *Eur. J. Mineral.*, **25**, 113-115.

Mills, S.J., Hatert, F., Nickel, E.H. & Ferraris, G. (2009): The standardisation of mineral group hierarchies: application to recent nomenclature proposals. *Eur. J. Mineral.*, **21**, 1073-1080.