

## ON THE USE OF NAMES, PREFIXES AND SUFFIXES, AND ADJECTIVAL MODIFIERS IN THE MINERALOGICAL NOMENCLATURE\*

MAX H. HEY

Department of Mineralogy, British Museum (Natural History), Cromwell Road,  
London SW7 5BD, Great Britain

GLAUCO GOTTARDI

Istituto di Mineralogia, Università di Modena, 41100 Modena, Italy

In mineralogical nomenclature two kinds of terms are currently used: names and adjectival modifiers.

### NAMES

A *name* may be used for (A) a group of minerals, e.g., "mica". (B) a mineralogical species or the end member that is dominant in a mineral (names should not be given to end members that are never dominant); examples are "tremolite" and "glaucophane". (C) a variety of a mineral species; e.g., "kunzite".

Mineral names may be prefixed or suffixed. A *prefixed* name is a name that may be split into two parts, the last being a mineral name itself; the first part is then called a *prefix*. The meaning of the prefix may be crystallographic, like "clino" in "clinoenstatite", or may not have a unique implication, like "meta", "para" or "apo"; more commonly its meaning is chemical, like "ferro" in "ferroglaucophane". In what follows the use of chemical prefixes *only* is discussed.

A chemical prefix should only be used where the element named is dominant in an isomorphic series; its use implies a distinct species. For minor substitutions an adjectival modifier (see below) should be used. The chemical prefix may be the name of an element (or ionic complex) like "zinc" in "zincaluminite", or the short form for the name of an element, like "chlor" in "chlorapatite". The Latin-derived prefixes must be used wherever possible, hence "ferro" not "iron", "plumbo" not "blei", and so on. The prefix and the rest of the name may be either written joined with a hyphen, e.g., "ferroglaucophane", or as a continuous whole, e.g.,

"ferroglaucophane", but the use of the hyphen should be avoided where possible. The use of double prefixes, as in "magnesio-alumino-tschermakite" is allowed. In indexing, the prefix must be treated as an inseparable part of the name. Please note that in the recently approved nomenclature of amphiboles (Leake 1978), the term *prefix* is used with a somewhat different and wider meaning; this discrepancy has been cleared up by Leake & Hey (1978).

A mineral name may be also *suffixed*. A *suffix* is a symbol, a chemical or a crystallographic one, that follows a mineral name and is attached to it with a hyphen. The suffix gives some particular additional information; for example, "monazite-(La)", which means a monazite where La is dominant among the rare earths; another example is "graphite-2H", which names a special polytype of graphite. The name may always be used without a suffix to denote the species in its broadest and unrestricted sense.

### ADJECTIVAL MODIFIERS

An *adjectival modifier* is an adjective that gives some information on the chemistry of the mineral. Examples are: "sodian", "sodium-rich" or "sodium-bearing" in English, "ferrifère" in French, "manganhaltig" or "manganreich" in German. As adjectives, these are not an essential part of the name, and should be ignored in the first stages of indexing; thus whereas "ferroglaucophane" (which implies  $\text{Fe}^{2+} > \text{Mg}$ ) is indexed under F, "ferroan glaucophane" (which implies  $\text{Fe}^{2+} < \text{Mg}$ ) is indexed under G.

The Commission on New Minerals and Mineral Names of the International Mineralogical Association is concerned with the mineral names, prefixed or not, suffixed or not, no matter whether they are used for a group of minerals, for a mineral species, for an end member, or

\*as approved by the Commission on New Minerals and Mineral Names, International Mineralogical Association (I.M.A.)

for a variety (but a new varietal name has never been approved by the Commission), and is not concerned with adjectival modifiers properly used. The Commission invites all mineralogists to pay attention in distinguishing prefixes (as here defined) from adjectival modifiers, so as to avoid, without prior approval of the Commission, the publication of a new prefixed name considered by an author as an old mineral name with a modifier (which would not be subject to the approval of the Commission). On the other hand, every mineralogist should take care not to confuse the meaning of words like "ferroglaucophane" with terms like "ferroan glaucophane".

#### *Important note*

In some languages, for instance in English, nouns can be used in an adjectival form, so that the word "sodium", when preceding without a

hyphen a mineral name, may signify either "sodium-rich" or also "the sodium equivalent of" or "the sodium analogue of" or something of the kind. This latter use should be avoided in the future, by using a true adjective for a minor substitution or a properly prefixed name, approved by the Commission, for a dominant substitution. Similarly in German, it is important to distinguish between "Mangantremolit" and "manganhaltiger Tremolit".

#### REFERENCES

- LEAKE, B.E. (1978): Nomenclature of amphiboles. *Can. Mineral.* 16, 501-520.
- & HEY, M.H. (1978): Addendum to the nomenclature of amphiboles. *Mineral. Mag.* 42, 561-563.

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