

International Nonproprietary Names (INN) for pharmaceutical substances

Names for radicals, groups & others
Comprehensive list

2015



**World Health
Organization**

International Nonproprietary Names (INN) Programme
Technologies Standards and Norms (TSN)
Regulation of medicines and other health technologies (RHT) Essential Medicines and Health Products (EMP)

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WHO'S INN PROGRAMME

GENERAL INFORMATION

The World Health Organization (WHO) has a constitutional responsibility to "develop, establish and promote international standards with respect to biological, pharmaceutical and similar products". The International Nonproprietary Names (INN) Programme is a core activity embedded in the normative functions of WHO and has served the global public health and medicines community for over sixty years. The Programme was established to assign nonproprietary names to pharmaceutical substances so that each substance would be recognized by a unique name. Such names are needed for the clear identification, safe prescription and dispensing of medicines, and for communication and exchange of information among health professionals. INNs can be used freely because they are in the public domain. In addition to being a basic component of many WHO medicines activities and programmes, INNs are used in regulatory and administrative processes in many countries. They are also intended for use in pharmacopoeias, labelling, and product information and to provide standardized terminology for the international exchange of scientific information.

INN SELECTION PROCEDURE

Each name proposed for designation as an INN is examined and selected in accordance with a formal procedure. Requests for INNs can be submitted directly to WHO (application forms online at <http://www.who.int/medicines/services/inn/en/>). In some countries where national nomenclature commissions exist, applications may also be made through the national nomenclature authority.

The INN Expert Group, consisting of selected members of the WHO Expert Panel on the International Pharmacopoeia and Pharmaceutical Preparations is officially designated to select nonproprietary names. Based on the information provided, an agreed name is selected and published as a **proposed** INN. During a four month period, any person can make comments or lodge a formal objection to the proposed name. If no objection is raised, this agreed name is published as the **recommended** INN.

In 1993, the World Health Assembly endorsed resolution WHA46.19 which states that trade marks should not be derived from INNs and INN stems should not be used in trade marks. The Assembly reasoned that such practice could frustrate the rational selection of INNs and ultimately compromise the safety of patients by promoting confusion in drug nomenclature. Above all, INNs are protected for use in the public domain.

CRITERIA FOR SELECTION OF INN

International Nonproprietary Names (INN) should be distinctive in sound and spelling. They should not be inconveniently long and not be liable to confusion with names in common use.

In addition, certain rules have been established in devising INNs to facilitate their use internationally. For example, to make pronunciation possible in various languages, the letters "h" and "k" should be avoided; "e" should be used instead of "ae" and "oe", "i" instead of "y", "t" instead of "th" and "f" instead of "ph".

Information on transliteration of Greek letters in English, French and Spanish is given in Annex 2 and on standardization of the Spanish version of INN in Annex 3.

Further information on the selection procedure and general principles in devising INNs may be found in the “Guidelines on the Use of International Nonproprietary Names (INNs) for Pharmaceutical Substances” (WHO/PHARM S/NOM 1570) available on the INN Programme website at: <http://www.who.int/medicines/services/inn/publication/en/index.html>.

INN STEMS

Stems define the pharmacologically related group to which the INN belongs. Whenever possible, an INN includes the "common stem" expressing the pharmacologically-related group. Names that are likely to convey an anatomical, physiological, pathological or therapeutic suggestion are avoided.

For further details on stems, please refer to "*The use of stems in the selection of International Nonproprietary Names (INN) for pharmaceutical substances*" (WHO/EMP/RHT/TSN/2013.1), which can be downloaded from the INN Programme website:

<http://www.who.int/medicines/services/inn/en/>

NAMES FOR RADICALS AND GROUPS

As a general rule, since 1975 INNs are selected for the active moiety of pharmaceutical substances. In the case of INNs of salts and esters it is left to the user to devise their names from the INN in conformity with normal chemical practice. Separate names for salts and esters derived from this procedure are not published. The same approach should be followed in the case of combination products. In all those situations, names are referred to as International Nonproprietary Name Modified INN^M.

Some of the radicals and groups involved are, however, of such complexity that, shorter nonproprietary names are selected for these inactive moieties, and published in proposed lists under the title "names for radicals and groups". If a "radical and group name" is used in conjunction with an INN, it is also referred to as an INN^M.

In some cases, a name of an INN Radical describes more than one substituent, e.g. (names in Latin) *acefuras*, *aceponas*, *enbutas*, *stinopras*,... Alphabetical list of currently used names for radicals and groups is given in the main part of the document, while the names of elements and chemical groups that were published together with INNs are given in Annex 1.

For further details on the INN^M, please refer to the INN Working Document 05.167/3 "*International Nonproprietary Names Modified*" which can be downloaded from the INN Programme website.

INFORMATION ON NAMES USED FOR SPECIFIC GROUPS OF SUBSTANCES

For a few groups of substances containing certain structural features, INNs are selected using particular approaches. Designations used in such INNs are listed in Annex 4. INNs for substances that include a carrier moiety are usually given a two-word name, describing separately the active element and the carrier part. Designations used for toxins (either active or inactivated proteins) are listed in Annex 4.1. Particular designations selected for other types of active moieties and relevant INNs are listed in Annex 4.2. It should be noted that these lists are not comprehensive.

INNs for modified insulins include, as a second word, a qualifier indicating to modifications introduced into the amino acid chain. These insulin qualifiers are listed in Annex 4.3.

INNs for substances that contain as the carrier a polyoxyethylene polymeric chain are given either a prefix *peg-*, an infix *-peg-* or a two-word INN, using "*pegol*" as the second word. The list of INNs containing such structures and an explanatory note is given in Annex 5.

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