

International Non-Proprietary Names for Pharmaceutical Preparations

In accordance with paragraph 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,¹ notice is hereby given that the following names are under consideration by the World Health Organization as proposed international non-proprietary names.

Comments on, or formal objections to, the proposed names may be forwarded by any

person to the Secretary, Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations, World Health Organization, within four months from 1 April 1959.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (*Prop. I.N.N.*): LIST 8²

<i>Proposed International Non-Proprietary Name (Latin, English)</i>	<i>Chemical Name or Description</i>
acetyl(digitoxinum acetyl)digitoxin	α -acetyl(digitoxin
acidum trethocanicum trethocanic acid	3-hydroxy-3,7,11-trimethyldodecanoic acid
alimemazinum alimemazine	10-(2-methyl-3-dimethylaminopropyl)phenothiazine
amanozinum amanozine	2-amino-4-anilino-s-triazine
ambazonum <u>ambazone</u>	1,4-benzoquinone amidinohydrazone thiosemicarbazone hydrate
aminopromazinum aminopromazine	10-(2,3-bisdimethylaminopropyl) phenothiazine
aminoxyltriphenum aminoxyltriphenic	3-dimethylamino,1,1,2-tris (4-methoxyphenyl)-1-propene
amopyroquinum amopyroquin	7-chloro-4-(4-hydroxy-3-pyrrolidin-1'-ylmethylanilino)quinoline
beclamidum <u>beclamide</u>	<i>N</i> -benzyl- β -chloropropionamide
benzmalaccenum benzmalaccene	<i>N</i> -(2,3-di- <i>p</i> -chlorophenyl-1-methylpropyl)maleamic acid (α - form)
bialamicolum bialamicol	3,3'-diallyl-5,5'-bisdiethylaminomethyl-4,4'-dihydroxydiphenyl

¹ See Annex 1, page 157.

² Other lists of proposed international non-proprietary names can be found in *Chronicle*, 1953, 7, 297; 1954, 8, 216, 313; 1956, 10, 28; 1957, 11, 231; 1958, 12, 102; 1959, 13, 105.

<i>Proposed International Non-Proprietary Name (Latin, English)</i>	<i>Chemical Name or Description</i>
brompheniraminum brompheniramine	(3- <i>p</i> -bromophenyl-3-pyrid-2'-ylpropyl)dimethylamine
proparoestrolum proparoestrol	1-bromo-2- <i>p</i> -ethylphenyl-1,2-diphenylethylene
bupheninum buphenine	1-(<i>p</i> -hydroxyphenyl)-2-(1-methyl-3-phenylpropylamino) propanol
buthalitalum natricum buthalital sodium	a mixture of 100 parts by weight of the monosodium derivative of 5-allyl-5- <i>isobutyl</i> -2-thiobarbituric acid and 6 parts by weight of exsiccated sodium carbonate
butopyrammonii iodidum butopyrammonium iodide	butyldimethyl(2,3-dimethyl-5-oxo-1-phenyl-3-pyrazolin-4-yl)ammonium iodide
chaulmosulfonum chaulmosulfone	4,4'-(bis-dihydrochaulmoogroylamido)diphenylsulfone
chlorazaniolum chlorazaniol	2-amino-4- <i>p</i> -chloroanilino- <i>s</i> -triazine
chlorbenzoxaminum chlorbenzoxamine	1-(2- <i>o</i> -chlorodiphenylmethoxyethyl)-4- <i>o</i> -methylbenzylpiperazine
chlormezanolum chlormezanone	2-(4-chlorophenyl)-3-methyl-4-metathiazanone 1,1-dioxide
chlorothiazidum chlorothiazide	6-chloro-7-sulfamoylbenzo-1,2,4(4 <i>H</i>)-thiadiazine 1,1-dioxide
chlorphenesinum chlorphenesin	3- <i>p</i> -chlorophenoxypropane-1,2-diol
chlorphenocitii amsonas chlorphenocitium amsonate	2,4-dichlorophenoxydimethyldimethyl- <i>n</i> -octylammonium amsonate (amsonic acid is 4,4'-diaminostilbene-2,2'-disulfonic acid)
chlorproguanilum chlorproguanil	<i>N</i> ¹ ,3,4-dichlorophenyl- <i>N</i> ² - <i>isopropyl</i> diguamide
chlorpropamidum chlorpropamide	3-(<i>p</i> -chlorophenyl)sulfonyl-1-propylurea
chlorzoxazolum chlorzoxazone	5-chloro-2-benzoxazolone
cholini theophyllinas choline theophyllinate	choline salt of theophylline
clemizolum clemizole	1- <i>p</i> -chlorobenzyl-2-pyrrolidin-1'-ylmethylbenzimidazole
clemizolum penicillinum clemizole penicillin	benzylpenicillin combined with 1- <i>p</i> -chlorobenzyl-2-pyrrolidin-1'-ylmethylbenzimidazole
cyclandelatum cyclandelate	3,5,5-trimethylcyclohexyl mandelate
cyclobenzaprinum cyclobenzaprine	5-(3-dimethylaminopropylidene)dibenzo(<i>a,e</i>)cycloheptatriene
cyclopregnolum cyclopregnol	6β-hydroxy-3,5- <i>cyclo</i> pregnan-20-one
dequalinii chloridum dequalinium chloride	decamethylenebis(4-aminoquinadinium chloride)
dexamethasonum dexamethasone	9α-fluoro-16α-methylprednisolone

<i>Proposed International Non-Proprietary Name (Latin, English)</i>	<i>Chemical Name or Description</i>
diathymosulfonum diathymosulfone	di[4-(4-hydroxy-2-methyl-5-isopropylphenylazo)phenyl]sulfone
dichlormezanone dichlormezanone	2-(3,4-dichlorophenyl)-3-methyl-4-metathiazanone 1,1-dioxide
dihydrocodeinum dihydrocodeine	
diloxanidum diloxanide	<i>N</i> -dichloroacetyl- <i>p</i> -hydroxy- <i>N</i> -methylaniline
dimethazanum dimethazan	1,3-dimethyl-7-(2-dimethylaminoethyl)xanthine
dimethisteronum dimethisterone	6 α ,21-dimethylethisterone
diphoxazidum diphoxazide	<i>N</i> ² -acetyl- <i>N</i> ¹ -(β -hydroxy- β , β -diphenylpropionyl)hydrazine
dithiazanini iodidum dithiazanine iodide	3-ethyl-2-[5-(3-ethyl-2-benzothiazolidinylidene)-1,3-pentadienyl] benzothiazolium iodide
fluorometholonum fluorometholone	9 α -fluoro-11 β ,17 α -dihydroxy-6 α -methyl-1,4-pregnadiene-3,20-dione
furmethonolum furmethonol	5-morpholinomethyl-3-(5-nitrofurfurylideneamino)-2-oxazolidinone
furmethoxadonum furmethoxadone	5-methyl-3-(5-nitrofurfurylideneamino)-2-oxazolidinone
glybuthiazolum glybuthiazol	2- <i>p</i> -aminobenzenesulfonamido-5- <i>tert.</i> -butyl-1,3,4-thiadiazole
glyprothiazolum glyprothiazol	2- <i>p</i> -aminobenzenesulfonamido-5- <i>isopropyl</i> -1,3,4-thiadiazole
hedaquinii chloridum hedaquinium chloride	hexadecamethylenebis-(2- <i>isoquinolinium</i>)dichloride
hexadimethrini bromidum hexadimethrine bromide	<i>N,N,N',N'</i> -tetramethylhexamethylenediamine trimethylene bromide polymer
hydroxindasolum hydroxindasol	5-hydroxy-1-(<i>p</i> -methoxybenzyl)-2-methyltryptamine
hydroxychloroquinum hydroxychloroquine	7-chloro-4-[4-(<i>N</i> -ethyl- <i>N</i> -2-hydroxyethylamino)-1-methylbutylamino] quinoline
hydroxydioni natrii succinas hydroxydione sodium succinate	sodium 21-(3-carboxypropionyloxy)pregnane-3,20-dione
hydroxymycinum hydroxymycin	an antibiotic substance obtained from cultures of <i>Streptomyces pauci- sporogenes</i> , or the same substance produced by any other means
hydroxyprogesteroni acetat hydroxyprogesterone acetate	17 α -acetoxypregn-4-ene-3,20-dione
hydroxyprogesteroni caproas hydroxyprogesterone caproate	17 α -hexanoyloxypregn-4-ene-3,20-dione
imipraminum imipramine	5-(3-dimethylaminopropyl)-10,11-dihydro-5 <i>H</i> -dibenz[<i>b,f</i>] azepine
inproquonum inproquone	2,5-bisethyleneimino-3,6-dipropoxy-1,4-benzoquinone

<i>Proposed International Non-Proprietary Name (Latin, English)</i>	<i>Chemical Name or Description</i>
isopropamidi iodidum isopropamide iodide	(3-carbamoyl-3,3-diphenylpropyl)diisopropylmethylammonium
isoxsuprinum isoxsuprine	1-(<i>p</i> -hydroxyphenyl)-2-(1'-methyl-2'-phenoxyethylamino)-1-prc
khellosidum khelloside	2-hydroxymethyl-5-methoxy-furanochromone glucoside
levomepromazinum levomepromazine	(-)-10-(3-dimethylamino-2-methylpropyl)-2-methoxyphenothiaz
lysergidum lysergide	lysergic acid diethylamide
mannomustinum mannomustine	1,6-di-(2-chloroethylamino)-1,6-dideoxy-D-mannitol
melphalanum melphalan	<i>p</i> -di(2-chloroethyl)amino-L-phenylalanine
methocarbamolium methocarbamol	(2-hydroxy-3- <i>o</i> -methoxyphenoxypropyl)carbamate
methohexitalum methohexital	α -(\pm)-5-allyl-1-methyl-5-(1-methyl-2-pentynyl)barbituric acid
methylprednisolonum methylprednisolone	6-methylprednisolone
monophosphothiaminum monophosphothiamine	monophosphoric ester of thiamine
orphenadrinum orphenadrine	<i>N,N</i> -dimethyl-2-(α - <i>o</i> -tolylbenzyl)oxy)ethylamine
oxadimedinum oxadimedine	<i>N</i> -(2-benzoxazolyl)- <i>N</i> -benzyl- <i>N',N'</i> -dimethylethylenediamine
oxanamidum oxanamide	2-ethyl-3-propylglycidamide
oxybuprocainum oxybuprocaine	2-diethylaminoethyl 4-amino-3-butoxybenzoate
oxyphenbutazonum oxyphenbutazone	1-(<i>p</i> -hydroxyphenyl)-2-phenyl-4-butyl-3,5-pyrazolidinedione
oxyphenisatinum oxyphenisatine	3,3-bis(4-hydroxyphenyl)oxindole
paracetamolium paracetamol	<i>p</i> -acetamidophenol(acetaminophen)
paridocarium paridocaine	1-methylpiperid-4-yl <i>p</i> -butylaminobenzoate
pasiniazidum pasiniazid	isonicotinylhydrazide <i>p</i> -aminosalicylate
pecazinum pecazine	10-(1-methyl-piperid-3-ylmethyl)phenothiazine
pempidinum pempidine	1,2,2,6,6-pentamethylpiperidine
perphenazinum perphenazine	2-chloro-10-[3-{4-(2-hydroxyethyl)piperazin-1-yl}propyl]phenoth

*Proposed International
Non-Proprietary Name
(Latin, English)*

Chemical Name or Description

phenactropinii chloridum phenactropinium chloride	<i>N</i> -phenacylhomatropinium chloride
pheniraminum pheniramine	dimethyl(3-phenyl-3-pyrid-2'-ylpropyl)amine
phenyracillinum phenyracillin	2,5-diphenylpiperazine di(benzylpenicillin)
piprinhydrinatum piprinhydrinate	4-diphenylmethoxy-1-methylpiperidine salt of 8-chlorotheophylline
poloxalkolum poloxalkol	polymer of ethylene oxide, propylene oxide and propylene glycol
polybenzarsolum polybenzarsol	a mixture of polymers formed from the reaction of formaldehyde and 4-hydroxybenzenearsonic acid
poskinum poskine	propionylhyoscine
propiomazinum propiomazine	10-(2-dimethylamino-1-methylethyl)-2-propionylphenothiazine
protamini sulfas protamine sulfate	sulfate of the strongly basic protein, protamine
pyrazinamidum pyrazinamide	pyrazine-2-carboxamide
renanolonum renanolone	3 α -hydroxypregnane-11,20-dione
ristocetinum ristocetin	an antibiotic substance obtained from cultures of <i>Nocardia lurida</i> , or the same substance produced by any other means
salinazidum salinazid	<i>N</i> -isonicotinoyl- <i>N</i> '-salicylidenehydrazine
sulfaethidolum sulfaethidole	<i>N</i> ¹ -(5-ethyl-1,3,4-thiadiazol-2-yl)sulfanilamide
sulfamethoxypyridazinum sulfamethoxypyridazine	6-methoxy-3-sulphanilamidopyridazine
sulfinpyrazonum sulfinpyrazone	1,2-diphenyl-4-(2-phenylsulfinylethyl)-3,5-pyrazolidinedione
sulocarbilatum sulocarbilate	2-hydroxyethyl <i>p</i> -sulfamylcarbanilate
tacricum tacrine	9-amino-1,2,3,4-tetrahydroacridine
thalidomidum thalidomide	α -phthalimidoglutarimide
thiambutosinum thiambutosine	1-(<i>p</i> -butoxyphenyl)-3-(<i>p</i> -dimethylaminophenyl)thiourea
thiocolchicosidum thiocolchicoside	2,14-di(demethoxy)-2-glucosidoxy-14 methylthiocolchicine
thiopropazatum thiopropazate	10-[3-[4-(2-acetoxyethyl)piperazin-1-yl]propyl]-2-chlorophenothiazine
thioridazinum thioridazine	10-[2-(1-methylpiperid-2-yl)ethyl]-2-methylthiophenothiazine

<i>Proposed International Non-proprietary Name (Latin, English)</i>	<i>Chemical Name or Description</i>
triacetinum triacetin	glyceryl triacetate
triacetyloleandomycinum triacetyloleandomycin	the triacetyl ester of oleandomycin, an antibiotic substance obtained from cultures of <i>Streptomyces antibioticus</i> , or the same substance produced by any other means
triamcinolonum triamcinolone	9 α -fluoro-16 α -hydroxyprednisolone
trimethidini methylsulfas trimethidinium methylsulfate	(+)-3-(3-dimethylaminopropyl)-1,8,8-trimethyl-3-azabicyclo[3,2,1]octane di(methylmethosulfate)
tropiglinum <u>tropigline</u>	tiglyltropine
xylometazolinum xylometazoline	2-(4- <i>tert.</i> -butyl-2,6-dimethylbenzyl)imidazoline

Annex 1

PROCEDURE FOR THE SELECTION OF RECOMMENDED INTERNATIONAL NON-PROPRIETARY NAMES FOR PHARMACEUTICAL PREPARATIONS *

The following procedure shall be followed by the World Health Organization in the selection of recommended international non-proprietary names for pharmaceutical preparations, in accordance with the World Health Assembly resolution WHA3.11:

- Proposals for recommended international non-proprietary names shall be submitted to the World Health Organization on the form provided therefor.
- Such proposals shall be submitted by the Director-General of the World Health Organization to the members of the Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations designated for this purpose, for consideration in accordance with the "General principles for guidance in devising International Non-proprietary Names", appended to this procedure.¹ The name used by the person discovering or first developing and marketing a pharmaceutical preparation shall be accepted, unless there are compelling reasons to the contrary.
- Subsequent to the examination provided for in article 2, the Director-General of the World Health Organization shall give notice that a proposed international non-proprietary name is being considered.
 - Such notice shall be given by publication in the *Chronicle of the World Health Organization* and by letter to Member States and to national pharmacopoeia commissions or other bodies designated by Member States.
 - Notice may also be sent to specific persons known to be concerned with a name under consideration.

* Text adopted by the Executive Board in resolution EB15 R7 (*Off. Rev. Wld Hlth Org.*, 1955, 60, 3)

¹ See Annex 2, page 159.

B. Such notice shall:

- (i) set forth the name under consideration;
- (ii) identify the person who submitted a proposal for naming the substance, if so requested by such person;
- (iii) identify the substance for which a name is being considered;
- (iv) set forth the time within which comments and objections will be received and the person and place to whom they should be directed;
- (v) state the authority under which the World Health Organization is acting and refer to these rules of procedure.

C. In forwarding the notice, the Director-General of the World Health Organization shall request that Member States take such steps as are necessary to prevent the acquisition of proprietary rights in the proposed name during the period it is under consideration by the World Health Organization.

4. Comments on the proposed name may be forwarded by any person to the World Health Organization within four months of the date of publication, under article 3, of the name in the *Chronicle of the World Health Organization*.

5. A formal objection to a proposed name may be filed by any interested person within four months of the date of publication, under article 3, of the name in the *Chronicle of the World Health Organization*.

A. Such objection shall:

- (i) identify the person objecting;
- (ii) state his interest in the name;
- (iii) set forth the reasons for his objection to the name proposed.

6. Where there is a formal objection under article 5, the World Health Organization may either reconsider the proposed name or use its good offices to attempt to obtain withdrawal of the objection. Without prejudice to the consideration by the World Health Organization of a substitute name or names, a name shall not be selected by the World Health Organization as a recommended international non-proprietary name while there exists a formal objection thereto filed under article 5 which has not been withdrawn.

7. Where no objection has been filed under article 5, or all objections previously filed have been withdrawn, the Director-General of the World Health Organization shall give notice in accordance with subsection A of article 3 that the name has been selected by the World Health Organization as a recommended international non-proprietary name.

8. In forwarding a recommended international non-proprietary name to Member States under article 7, the Director-General of the World Health Organization shall:

A. request that it be recognized as the non-proprietary name for the substance; and

B. request that Member States take such steps as are necessary to prevent the acquisition of proprietary rights in the name, including prohibiting registration of the name as a trade-mark or trade-name.

Annex 2

GENERAL PRINCIPLES FOR GUIDANCE IN DEVISING INTERNATIONAL NON-PROPRIETARY NAMES *

1. Names should, preferably, be free from any anatomical, physiological, pathological or therapeutic suggestion.
2. An attempt should first be made to form a name by the combination of syllables in such a way as to indicate the significant chemical groupings of the compound and/or its pharmacological classification. Preference should be given to the following syllables:

<i>Latin</i>	<i>English</i>	<i>French</i>	
inum	ine	ine	for alkaloids and organic bases
olum	ol	ol	for alcohols and phenols (-OH group)
alum	al	al	for aldehydes
onum	one	one	for ketones and other substances containing the CO group
enum	ene	ène	for unsaturated hydrocarbons
anum	ane	ane	for saturated hydrocarbons
cainum	caine	caïne	for local anaesthetics of the procaine type
mer	mer	mer	for mercurial compounds
sulfonum	sulfone	sulfone	for sulfone derivatives
quinum	quine	quine	for antimalarial substances containing a quinoline group
crinum	crine	crine	for antimalarial substances containing an acridine group
sulfa	sulfa	sulfa	for derivatives of sulfanilamide having an antibacterial action
dionum	dione	dione	for anti-epileptics derived from oxazolidinedione
toinum	toin	toïne	for anti-epileptics derived from hydantoin
stigminum	stigmine	stigmine	for anticholinesterases of the physostigmine (eserine) type.

3. Names should be distinctive in sound and spelling. They should not be inconveniently long and should not be liable to confusion with names already in use.
4. The addition of a terminal capital letter or number should be avoided as far as possible.
5. Names proposed by the person discovering or first developing and marketing a pharmaceutical preparation, or already officially adopted in any country, or used in national pharmacopoeias, or in works of reference such as "New and Non-official Drugs", should receive preferential consideration.
6. Cognizance should be taken of the names of closely related substances and, where desirable, the name should show this relationship.

* These principles replace those published in *Chronicle*, 1958, 12, 111.