Reprinted from
Chronicle of the World Health Organization March 1958, Vol. 12, No. 3

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 (see Annex 1, page 109), 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, Proposed Names may be forwarded by any person to the Pharmaceutical Section of the World Health Organization within four months from 1 April 1958.

The inclusion of a name in this list 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 6 [1]

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
acenocoumarolum acenocoumarol	3-[α-(4-nitrophenyl)-β-acetylethyl]-4-hydroxycoumarin
acepromazinum acepromazine	2-acetyl-10-(3-dimethylaminopropyl) phenothiazine
acetazolamidum acetazolamide	2-acetamido-1,3,4-thiadiazole-5-sulfonamide
acidum edeticum edetic acid	ethylenediamino-*N,N,N',N'*-tetra-acetic acid
aldosteronum aldosterone	18-oxo-corticosterone
ambenonii chloridum ambenonium chloride	*N,N'*-bis-(2-diethylaminoethyl)-oxamide bis-2-chlorobenzyl chloride
ambucainum ambucaine	β-diethylaminoethyl 4-amino-2-butoxybenzoate
ambucetamidum ambucetamide	2-(di-*n*-butylamino)-2-(*p*-methoxyphenyl)-acetamide
aminometradinum aminometradine	1-allyl-3-ethyl-6-amino-2, 4-dioxo-1,2,3,4-tetrahydropyrimidine
amiphenazolum amiphenazole	2,5-diamino-4-phenylthiazole

[1] Other lists of proposed international non-proprietary names can be found in *Chron. World Hlth Org.*, 1953, 7, 297, 1954, 8, 216 and 313, 1956, 10, 28, 1957, 11, 231.

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
amisometradinum amisometradine	6-amino-1,2,3,4-tetrahydro-3-methyl-1-methylallylpyrimidine-2,4-dione
amolanonum amolanone	3-(β-diethylaminoethyl)-3-phenyl-benzofuran-2-one
azacyclonolum azacyclonol	α,α-diphenyl-α-piperid-4-yl-methanol
bemegridum bemegride	4-ethyl-4-methyl-2,6-dioxo-piperidine
benactyzinum benactyzine	2-diethylaminoethylbenzilate
benzonatatum benzonatate	2-(ω-methoxyoctaethyleneoxy)-ethyl *p*-butylaminobenzoate
betazolum betazole	3-(β-aminoethyl)-pyrazole
bietamiverinum bietamiverine	2-diethylaminoethyl α-phenyl-α-piperidinoacetate
busulfanum busulfan	1,4-dimethanesulfonoxybutane
calcii glucoheptonas calcium glucoheptonate	calcium hexahydroxyheptonate
captodiamum captodiame	*p*-butylthiodiphenylmethyl-2-dimethylaminoethyl sulfide
carbazochromi salicylas carbazochrome salicylate	adrenochrome monosemicarbazone sodium salicylate complex
chlorambucilum chlorambucil	*p*-di-(2-chloroethyl)-aminophenylbutyric acid
chlordimorinum chlordimorine	4-[γ-(4-morpholino) propoxy]-3-chlorobiphenyl
chlorhexidinum chlorhexidine	1,6-bis-(*p*-chlorophenyldiguanido)-hexane
chlorisondamini chloridum chlorisondamine chloride	4,5,6,7-tetrachloro-2-(trimethylammonium-ethyl)-*N*-methyl-*iso*indoline dichloride
chloroprocainum chloroprocaine	β-diethylaminoethyl 2-chloro-4-aminobenzoate
chlorotrianisenum chlorotrianisene	tri-(*p*-methoxyphenyl)-chloroethylene
chloroxylenolum chloroxylenol	4-chloro-3,5-dimethylphenol
cinnofuradionum cinnofuradione	4-tetrahydrofurfuryl-1,2-(benzo(c)-cinnolino)-pyrazolidine-3,5-dione
clidinii bromidum clidinium bromide	1-methyl-3-benziloyloxyquinuclidinium bromide
corticotrophinum-zinci hydroxydum corticotrophin-zinc hydroxide	a preparation of purified corticotrophin adsorbed on zinc hydroxide
crotamitonum crotamiton	*N*-ethyl-*N*-*o*-toluyl crotonamide

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
cryofluoranum cryofluorane	1,2-dichloro-1,1,2,2-tetrafluoroethane
cyclomethycainum cyclomethycaine	3-(2-methylpiperidino)-propyl *p-cyclo*hexyloxybenzoate
cycloserinum cycloserine	4-amino-isoxazolidin-3-one
demecolcinum demecolcine	deacetylmethylcolchicine
deserpidinum deserpidine	11-desmethoxyreserpine
dextromoramidum dextromoramide	*d*-3-methyl-2,2-diphenyl-4-morpholinobutyrylpyrrolidine
dichlorophenum dichlorophen	di-(5-chloro-2-hydroxyphenyl) methane
dicycloverinum dicycloverine	*β*-diethylaminoethyl *cyclo*hexyl-*cyclo*-hexane-carboxylate
dimethoxanatum dimethoxanate	*β*-dimethylaminoethoxyethyl phenothiazine-10-carboxylate
dioxethedrinum dioxethedrin	1-(3,4-dihydroxyphenyl)-2-ethylamino-propan-1-ol
diphenadionum diphenadione	2-diphenylacetyl-1,3-indandione
diphenylpyralinum diphenylpyraline	*N*-methylpiperidyl-4-benzhydryl ether
dipyrocetylum dipyrocetyl	2,3-diacetoxybenzoic acid
dycloninum dyclonine	*p*-butoxy-3-piperidinopropiophenone
ecothiopati iodidum ecothiopate iodide	*o,o*-diethyl *s*-(2-trimethylammonium ethyl) phosphorothiolate iodide
endomycinum endomycin	an antibiotic substance obtained from cultures of *Streptomyces endus*, or the same substance produced by any other means
etamiphyllinum etamiphyllin	7-(2-diethylaminoethyl)-theophyllin
ethinamatum ethinamate	1-ethynyl*cyclo*hexyl carbamate
ethotoinum ethotoin	3-ethyl-5-phenylhydantoin
ethylphenacemidum ethylphenacemide	phenylethylacetylurea
ethypiconum ethypicone	4,6-dioxo-3-methyl-5,5-diethyl-1,4,5,6-tetrahydropyridine
etoxeridinum etoxeridine	1-[2-(2-hydroxyethoxy)-ethyl]-4-phenylpiperidine-4-carboxylic acid, ethyl ester
florantyronum florantyrone	γ-fluoranthen-8-yl-γ-oxobutyric acid

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
fludrocortisoni acetas fludrocortisone acetate	9-α-fluoro-17-hydroxycorticosterone 21-acetate
fluoxymesteronum fluoxymesterone	9-α-fluoro-11-β-17-β-dihydroxy-17-α-methylandrost-4-ene-3-one
forminitrazolum forminitrazole	2-formamido-5-nitrothiazole
glucurolactonum glucurolactone	γ-lactone of D-glucofuranuronic acid
glutethimidum glutethimide	3-ethyl-3-phenyl-2,6-dioxo-piperidine
halothanum halothane	2-bromo-2-chloro-1,1,1-trifluoroethane
hexetidinum hexetidine	bis-1,3-(β-ethylhexyl)-5-methyl-5-aminohexahydropyrimidine
hexocyclii methylsulfas hexocyclium methylsulfate	*N*-(β-cyclohexyl-β-hydroxy-β-phenylethyl)-*N'*-dimethylpiperazinium methylsulfate
histapyrrodinum histapyrrodine	*N*-pyrrolidylethyl-*N*-phenylbenzylamine
homarylaminum homarylamine	*N*-methyl-5-aminoethyl-1,2-methylenedioxybenzene
hydrocortamati hydrochloridum hydrocortamate hydrochloride	17-hydroxycorticosterone 21-diethylaminoacetate hydrochloride
hydroxyzinum hydroxyzine	1-(*p*-chlorobenzhydryl)-4-[2-(2-hydroxyethoxy)-ethyl] piperazine
injectio insulini zinci globinati globin zinc insulin injection	a sterile buffered suspension of insulin with zinc chloride and globin
injectio insulini zinci protaminati protamine zinc insulin injection	a sterile buffered suspension of insulin with zinc chloride and protamine
isometheptenum isometheptene	2-methylamino-6-methylhept-5-ene
isothipendylum isothipendyl	10-(2-dimethylamino-2-methylethyl)-1-azaphenothiazine
lauralkonii chloridum lauralkonium chloride	*p*-laurylphenyloxyethyl-benzyl-dimethylammonium chloride
leucovorinum leucovorin	5-formyl-5,6,7,8-tetrahydropteroyl-glutamic acid
levomoramidum levomoramide	*l*-3-methyl-2,2-diphenyl-4-morpholinobutyrylpyrrolidine
liothyroninum liothyronine	*l*-4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenylalanine
magnesii aluminii glycinas magnesium aluminium glycinate	hydroxy aluminium magnesium amino-acetate
mecamylaminum mecamylamine	3-methylamino*iso*camphane
mephenterminum mephentermine	*N*-α-α-trimethyl-β-phenylethylamine

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
meprobamatum meprobamate	2-methyl-2-propyl-propane-1,3-diol dicarbamate
mercaptopurinum mercaptopurine	6-purinethiol
mesuximidum mesuximide	1,3-dimethyl-3-phenyl-2,5-dioxo-pyrrolidine
methallenestrilum methallenestril	3-(6-methoxy-2-naphthyl)-3-ethyl-2,2-dimethylpropionic acid
methiturallum methitural	5-methylthioethyl-5-(2-pentyl)-2-thiobarbituric acid
methocidinum methocidin	hydroxymethylgramicidin
methopromazinum methopromazine	2-methoxy-10-(3-dimethylaminopropyl) phenothiazine
methoxyphedrinum methoxyphedrine	1-*p*-methoxyphenyl-1-methylamino-propan-1-one
methylphenidatum methylphenidate	α-phenyl-α-(2-piperidyl)-methyl acetate
methyprylonum methyprylon	3,3-diethyl-5-methylpiperidine-2,4-dione
midamalinum midamaline	*N*-(5-chloro-2-benzimidazolylmethyl)-*N*-phenyl-*N'*,*N'*-dimethyl-ethylene-diamine
monobenzonum monobenzone	monobenzyl ether of hydroquinone
morpheridinum morpheridine	morpholinoethyl*nor*pethidine
natrii calcii edetas sodium calcium edetate	calcium chelate of the disodium salt of ethylenediamino-*N*,*N*,*N'*,*N'*-tetra-acetic acid
natrii dioctylis sulfosuccinas sodium dioctyl sulfosuccinate	di-β-ethylhexyl sodium sulfo-succinate
natrii diprotrizoas sodium diprotrizoate	sodium 3,5-dipropionylamino-2,4,6-triiodobenzoate
natrii radiochromas (^{51}Cr) sodium radiochromate (^{51}Cr)	anionic hexavalent radioactive chromium (^{51}Cr) in the form of sodium chromate
natrii radiophosphas (^{32}P) sodium radiophosphate (^{32}P)	radioactive phosphorus in the form of a mixture of sodium dihydrogen phosphate and disodium hydrogen phosphate
nidroxyzonum nidroxyzone	5-nitro-2-furaldehyde 2-(2-hydroxyethyl) semicarbazone
nitricholinii perchloras nitricholinium perchlorate	2-hydroxyethyltrimethylammonium nitric acid ester perchlorate
norethandrolonum norethandrolone	17-α-ethyl-17-hydroxy-19-*nor*-4-androsten-3-one
norethisteronum norethisterone	17-α-ethinyl-19-*nor*-4-androsten-17-β-ol-3-one
novobiocinum novobiocin	an antibiotic substance obtained from cultures of *Streptomyces spheroides*, or the same substance produced by any other means

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
nystatinum nystatin	an antibiotic substance obtained from cultures of *Streptomyces noursei*, or the same substance produced by any other means
oleandomycinum oleandomycin	an antibiotic substance obtained from cultures of *Streptomyces antibioticus*, or the same substance produced by any other means
ostreogrycinum ostreogrycin	an antibiotic substance obtained from cultures of *Streptomyces ostreogriseus*, or the same substance produced by any other means
oxeladinum oxeladin	diethylaminoethoxyethyl-α,α-diethyl-phenyl acetate
oxycinchophenum oxycinchophen	3-hydroxy-2-phenylquinoline-4-carboxylic acid
pentacynii chloridum pentacynium chloride	*N*-[*N'*-(5-cyano-5,5-diphenylpentyl)-*N'*-dimethylammoniumethyl]-*N*-methylmorpholinium dichloride
pentoxyverinum pentoxyverine	2-(2-diethylaminoethoxy)-ethyl 1-phenyl-*cyclo*pentane-1-carboxylate
petrichloralum petrichloral	pentaerythritol chloral
phenaglycodolum phenaglycodol	2-*p*-chlorophenyl-3-methylbutane-2,3-diol
phenamazolinum phenamazoline	2-anilinomethylimidazoline
phenmetrazinum phenmetrazine	2-phenyl-3-methyl-morpholine
phenobutiodilum phenobutiodil	α-(-2,4,6-triiodophenoxy)-butyric acid
phenoxybenzaminum phenoxybenzamine	*N*-phenoxy*iso*propyl-*N*-benzyl-β-chloroethylamine
phenoxymethylpenicillinum phenoxymethylpenicillin	an antibiotic in which the benzyl group of benzylpenicillin has been replaced by a phenoxymethyl group
phensuximidum phensuximide	1-methyl-3-phenyl-2,5-dioxo-pyrrolidine
phenythilonum phenythilone	2-ethyl-2-phenyl-thiamorpholine-3,5-dione
phenyltoloxaminum phenyltoloxamine	2-(*o*-benzylphenoxy)-ethyldimethylamine
phthalylsulfamethizolum phthalylsulfamethizole	5-phthalylsulfanilamido-2-methyl-1,3,4-thiadiazole
pimetremidum pimetremide	*N*-methyl-*N*-(β-picolyl)-tropamide
pipenzolati bromidum pipenzolate bromide	*N*-methyl-*N*-ethyl-3-piperidinium benzilate bromide
piperazini calcii edetas piperazine calcium edetate	a chelate produced by reacting edetic acid with calcium carbonate and piperazine
piperidolatum piperidolate	*N*-ethylpiperid-3-yl diphenylacetate

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
pipradrolum pipradrol	α,α-diphenyl-α-piperid-2-yl-methanol
polymyxinum B polymyxin B	an antibiotic substance obtained from cultures of *Bacillus polymyxor*, or the same substance produced by any other means
prednisolonum prednisolone	Δ^1-dehydro-hydrocortisone
prednisonum prednisone	Δ^1-dehydrocortisone
probenecidum probenecid	*p*-(di-*n*-propylsulfamoyl) benzoic acid
prochlorperazinum prochlorperazine	1-[3-(2-chloro-10-phenothiazinyl)-propyl]-4-methylpiperazine
prodeconii bromidum prodeconium bromide	*N,N,N′,N′*-tetramethyl-*N*-*N′*-bis-(carbo-propoxymethyl)-2,13-dioxatetradecane-1,14-diammonium dibromide
promazinum promazine	10-(3-dimethylaminopropyl) phenothiazine
promoxolanum promoxolane	2,2-di*iso*propyl-4-hydroxymethyl-1,3-dioxolane
propanocainum propanocaine	3-diethylamino-1-phenylpropyl benzoate
propazolamidum propazolamide	2-propionamido-1,3,4-thiadiazole-5-sulfonamide
propylhexedrinum propylhexedrine	1-*cyclo*hexyl-2-methylaminopropane
prothipendylum prothipendyl	10-(3-dimethylaminopropyl)-1-azaphenothiazine
proxymetacainum proxymetacaine	β-diethylaminoethyl-3-amino-4-propoxy-benzoate
pyridostigminum pyridostigmin	dimethylcarbamic ester of 1-methyl-3-hydroxpyridine
pyrvinii chloridum pyrvinium chloride	6-dimethylamino-2-[2-(2,5-dimethyl-1-phenyl-3-pyrryl)-vinyl]-1-methyl-quinolinium chloride
racemoramidum racemoramide	*d,l*-3-methyl-2,2-diphenyl-4-morpholinobutyrylpyrrolidine
rescinnaminum rescinnamine	3,4,5-trimethoxycinnamic acid ester of methyl reserpate
spiramycinum spiramycin	an antibiotic substance obtained from cultures of *Streptomyces ambofaciens*, or the same substance produced by any other means
streptodornasum streptodornase	enzyme obtained from cultures of various strains of *Streptococcus hemolyticus* and capable of hydrolysing desoxyribonucleoproteins
streptokinasum streptokinase	co-enzyme obtained from cultures of various strains of *Streptococcus hemolyticus* and capable of changing plasminogen into plasmin
streptovarycinum streptovarycin	an antibiotic substance composed of several related components obtained from cultures of *Streptomyces variabilis*
suspensio insulini cum zinco insulin zinc suspension	a sterile buffered mixture of insulin zinc suspension (amorphous) (30 per cent.) and insulin zinc suspension (crystalline) (70 per cent.)

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
tetryzolinum tetryzoline	2-(1,2,3,4-tetrahydronaphth-1-yl)-2-imidazoline
thenalidinum thenalidine	1-methyl-4-[*N*-(2-thenyl)-anilino]-piperidine
thyrotrophinum thyrotrophin	thyrotrophic hormone
tolbutamidum tolbutamide	*N*-p-tolylsulfonyl-*N'*-*n*-butyl-carbamide
tolproninum tolpronine	1-(1,2,3,6-tetrahydropyridino)-3-*o*-tolyloxypropan-2-ol
tridihexethyli iodidum tridihexethyl iodide	3-hydroxy-3-phenyl-3-*cyclo*hexyl-propyltriethylammonium iodide
trimeperidinum trimeperidine	1,2,5-trimethyl-4-phenyl-4-propionoxypiperidine
trimetaphani camphorsulfonas trimetaphan camphorsulfonate	*d*-3,4-(1,3-dibenzyl-2-keto-imidazolidino)-1,2-trimethylene thiophanium *d*-camphorsulfonate
triprolidinum triprolidine	*trans*-1-(pyrid-2-yl)-3-pyrrolidino-1-*p*-tolylprop-1-ene
vancomycinum vancomycin	an antibiotic substance obtained from cultures of *Streptomyces orientalis*, or the same substance produced by any other means
verazidum verazide	1-*iso*nicotinoyl-2-veratrylidene hydrazine
zoxazolaminum zoxazolamine	2-amino-5-chlorobenzoxazole

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:

1. Proposals for recommended international non-proprietary names shall be submitted to the World Health Organization on the form provided therefor.

2. 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.

* Text adopted by the Executive Board in resolution EB15.R7 (*Off. Rec. Wld Hlth Org.*, 60, 3)
See Annex 2, page 111.

3. 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.

A. 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.

(i) Notice may also be sent to specific persons known to be concerned with a name under consideration.

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:

Latin	English	French	
inum	ine	ine	for alkaloids and organic bases
inum	in	ine	for glycerides and neutral principles
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
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
dionum	dione	dione	for anti-epileptics derived from oxazolidinedione
toinum	toin	toïne	for anti-epileptics derived from hydantoin
stigminum	stigmine	stigmine	for anticholinesterases

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 the national pharmacopoeias, or in works of reference such as " New and Non-official Remedies ", should receive preferential consideration.