Reprinted from *WHO Chronicle*, Vol. 24, No. 3, pp. 119-142

International Nonproprietary Names for Pharmaceutical Substances

In accordance with article 3 of the Procedure for the Selection of Recommended International Nonproprietary Names for Pharmaceutical Preparations,[1] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Nonproprietary Names.

Comments on, or formal objections to, the proposed names may be forwarded by any person to the Pharmaceuticals unit of the World Health Organization within four months of the date of their publication in the *WHO Chronicle*.

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

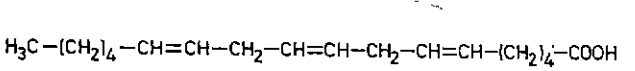
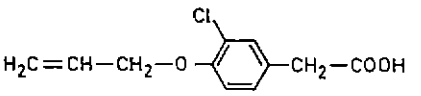
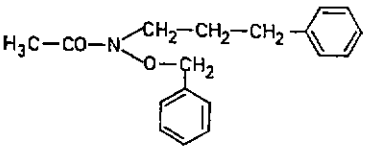
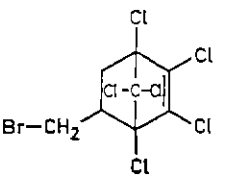
PROPOSED INTERNATIONAL NONPROPRIETARY NAMES (*Prop. I.N.N.*): LIST 23 [2]

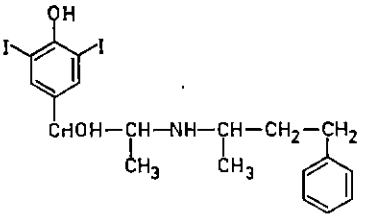
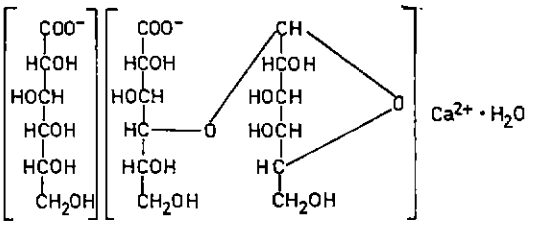
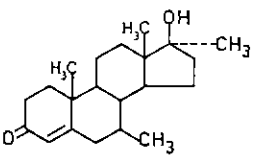
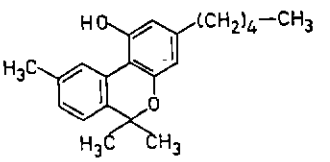
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
acidum arsanilicum arsanilic acid	*p*-aminobenzenearsonic acid $C_6H_8AsNO_3$
acidum difenoxilicum difenoxilic acid	1-(3-cyano-3,3-diphenylpropyl)-4-phenylisonipecotic acid $C_{28}H_{28}N_2O_2$

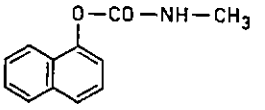
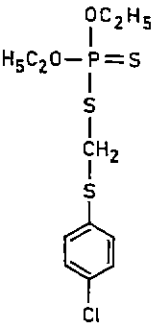
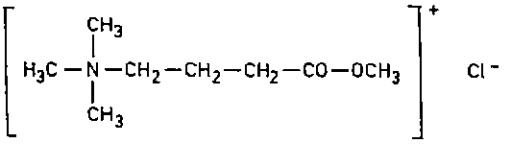
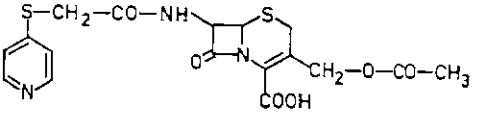
[1] See Annex, p. 22.

[2] Other lists of proposed international nonproprietary names can be found in *Chron. Wld Hlth Org.*, 1953, 7, 299; 1954, 8, 216, 313; 1956, 10, 28, 1957, 11, 231, 1958, 12, 102; *WHO Chronicle*, 1959, 13, 105, 152; 1960, 14, 168, 244; 1961, 15, 314; 1962, 16, 385; 1963, 17, 389; 1964, 18, 433; 1965, 19, 446; 1966, 20, 216; 1967, 21, 70, 478; 1968, 22, 112, 407; 1969, 23, 184, 418.

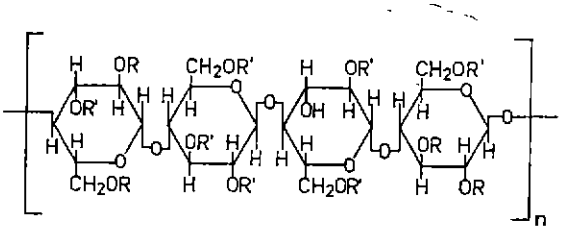
Lists of recommended international nonproprietary names were published in *Chron. Wld Hlth Org.*, 1955, 9, 185; *WHO Chronicle*, 1959, 13, 106, 463; 1962, 16, 101; 1965, 19, 165, 206, 249; 1966, 20, 421; 1967, 21, 538, 1968, 22, 463; 1969, 23, 490.

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
acidum gamolenicum gamolenic acid	(*7*,*7*,*7*)-6,9,12-octadecatrienoic acid $C_{18}H_{30}O_2$ 
alclofenacum alclofenac	[4-(allyloxy)-3-chlorophenyl]acetic acid $C_{11}H_{11}ClO_3$ 
ancrodum ancrod	an active principle obtained from the venom of the Malayan pit-viper *Agkistrodon rhodostoma*, acting specifically on fibrinogen
beloxamidum beloxamide	*N*-(benzyloxy)-*N*-(3-phenylpropyl)acetamide $C_{18}H_{21}NO_2$ 
biniramycinum biniramycin	an antibiotic obtained from cultures of *Streptomyces bikiniensis* variant, or the same substance produced by any other means
bleomycinum bleomycin	an antibiotic obtained from cultures of *Streptomyces verticillus*, or the same substance produced by any other means
bromociclenum bromociclen	5-(bromomethyl)-1,2,3,4,7,7-hexachloro-2-norbornene $C_8H_5BrCl_6$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
bufeniodum bufeniode	4-hydroxy-3,5-diiodo-α-[1-[(1-methyl-3-phenylpropyl)amino]ethyl] benzyl alcohol $C_{19}H_{23}I_2NO_2$ 
calcii glubionas calcium glubionate	(¯-gluconato) (lactobionato)calcium monohydrate $(C_{12}H_{21}O_{12}\cdot C_6H_{11}O_7)Ca\cdot H_2O$ 
calusteronum calusterone	17β-hydroxy-7β,17-dimethylandrost-4-en-3-one $C_{21}H_{32}O_2$ 
cannabinolum cannabinol	6,6,9-trimethyl-3-pentyl-6*H*-dibenzo[*b*,*d*]pyran-1-ol $C_{21}H_{26}O_2$ 

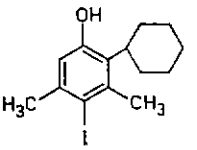
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
carbarilum carbaril	1-naphthyl methylcarbamate $C_{12}H_{11}NO_2$ 
carbofenotionum carbofenotion	*S*-[[(*p*-chlorophenyl)thio]methyl] *O,O*-diethyl phosphorodithioate $C_{11}H_{16}ClO_2PS_3$ 
carpronii chloridum carpronium chloride	(3-carboxypropyl)trimethylammonium chloride, methyl ester $C_8H_{18}ClNO_2$ 
cefapirinum cefapirin	3-(hydroxymethyl)-8-oxo-7-[2-(4-pyridylthio)acetamido]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid acetate (ester) $C_{17}H_{17}N_3O_6S_2$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
cellaburatum cellaburate	cellulose acetate butyrate

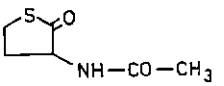


R = CH_3–CO– R' = CH_3–CH_2–CH_2–CO–

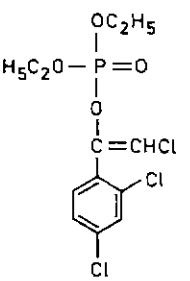
cicliomenolum cicliomenol	2-cyclohexyl-4-iodo-3,5-xylenol $C_{14}H_{19}IO$



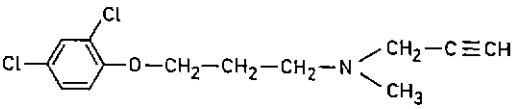
citiolonum citiolone	*N*-(tetrahydro-2-oxo-3-thienyl)acetamide $C_6H_9NO_2S$



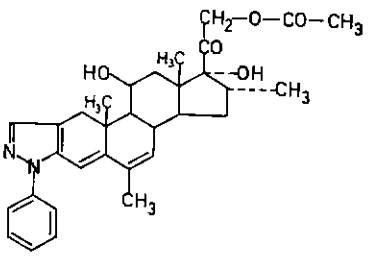
clofenvinfosum clofenvinfos	2-chloro-1-(2,4-dichlorophenyl)vinyl diethyl phosphate $C_{12}H_{14}Cl_3O_4P$



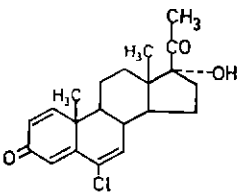
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
clorgilinum clorgiline	*N*-[3-(2,4-dichlorophenoxy)propyl]-*N*-methyl-2-propynylamine $C_{13}H_{15}Cl_2NO$



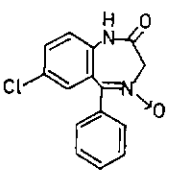
cortivazolum cortivazol	11β,17,21-trihydroxy-6,16α-dimethyl-2′-phenyl-2′*H*-pregna-2,4,6-trieno-[3,2-*c*]pyrazol-20-one 21-acetate $C_{32}H_{38}N_2O_5$

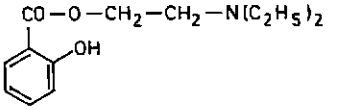
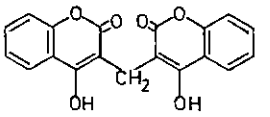
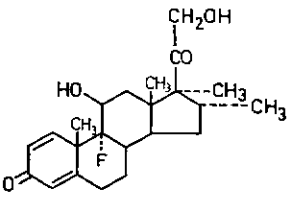


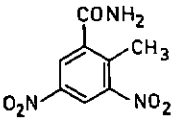
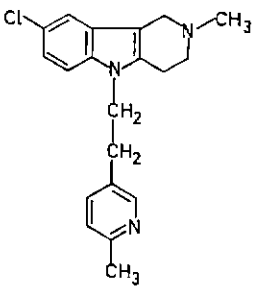
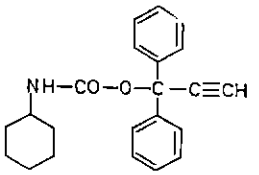
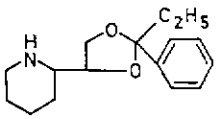
delmadinonum delmadinone	6-chloro-17-hydroxypregna-1,4,6-triene-3,20-dione $C_{21}H_{25}ClO_3$

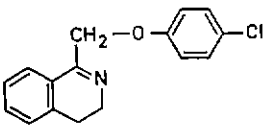
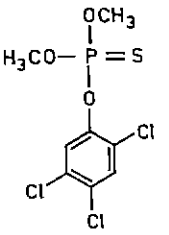
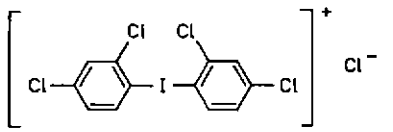
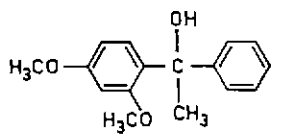


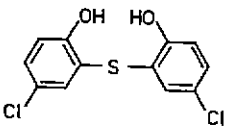
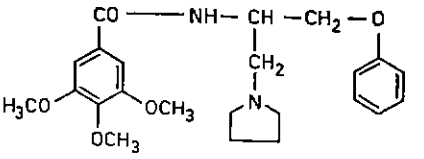
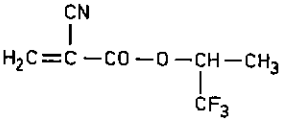
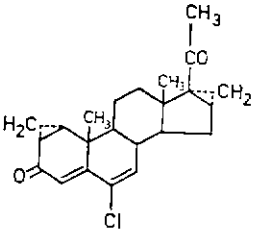
demoxepamum demoxepam	7-chloro-1,3-dihydro-5-phenyl-2*H*-1,4-benzodiazepin-2-one 4-oxide $C_{15}H_{11}ClN_2O_2$

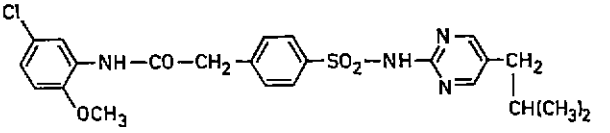
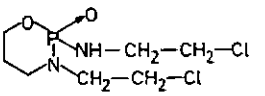
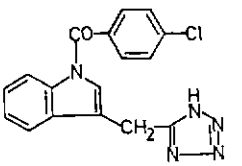


Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
detanosalum detanosal	2-(diethylamino)ethyl salicylate $C_{13}H_{19}NO_3$ 
dicoumarolum dicoumarol	3,3′-methylenebis(4-hydroxycoumarin) $C_{19}H_{12}O_6$ 
dimesonum dimesone	9α-fluoro-11β,21-dihydroxy-16α,17-dimethylpregna-1,4-diene-3,20-dione $C_{23}H_{31}FO_4$ 
dimeticonum 20 dimeticone 20	a polydimethylsiloxane of a viscosity of 17.0 to 23.0 centistokes
dimeticonum 200 dimeticone 200	a polydimethylsiloxane of a viscosity of 190 to 210 centistokes
dimeticonum 350 dimeticone 350	a polydimethylsiloxane of a viscosity of 330 to 370 centistokes
dimeticonum 500 dimeticone 500	a polydimethylsiloxane of a viscosity of 475 to 525 centistokes
dimeticonum 1000 dimeticone 1000	a polydimethylsiloxane of a viscosity of 950 to 1050 centistokes

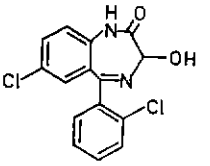
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
dinitolmidum dinitolmide	3,5-dinitro-*o*-toluamide $C_8H_7N_3O_5$ 
dorastinum dorastine	8-chloro-2,3,4,5-tetrahydro-2-methyl-5-[2-(6-methyl-3-pyridyl)ethyl]-1*H*-pyrido[4,3-*b*)]indole $C_{20}H_{22}ClN_3$ 
enpromatum enpromate	1,1-diphenyl-2-propynyl cyclohexanecarbamate $C_{22}H_{23}NO_2$ 
enramycinum enramycin	enduracidin; an antibiotic obtained from cultures of *Streptomyces fungicidicus* No. B 5477, or the same substance produced by any other means
etoxadrolum etoxadrol	(+)-2-(2-ethyl-2-phenyl-1,3-dioxolan-4-yl)piperidine $C_{16}H_{23}NO_2$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
famotinum famotine	1-[(*p*-chlorophenoxy)methyl]-3,4-dihydroisoquinoline $C_{16}H_{14}ClNO$ 
fenclofosum fenclofos	*O,O*-dimethyl *O*-(2,4,5-trichlorophenyl) phosphorothioate $C_8H_8Cl_3O_3PS$ 
feniodii chloridum feniodium chloride	bis(2,4-dichlorophenyl)iodonium chloride $C_{12}H_6Cl_5I$ 
fenocinolum fenocinol	2,4-dimethoxy-α-methylbenzhydrol $C_{16}H_{18}O_3$ 

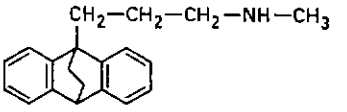
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
fenticlorum fenticlor	2,2′-thiobis(5-chlorophenol) $C_{12}H_8Cl_2O_2S$ 
fepromidum fepromide	3,4,5-trimethoxy-*N*-[1-(phenoxymethyl)-2-(1-pyrrolidinyl)ethyl] benzamide $C_{23}H_{30}N_2O_5$ 
flucrilatum flucrilate	2,2,2-trifluoro-1-methylethyl 2-cyanoacrylate $C_7H_6F_3NO_2$ 
gestaclonum gestaclone	17β-acetyl-6-chloro-1β,1a,2β,8β,9α,10,11,12,13,14α,15,16β,16a,17-tetradecahydro-10β,13β-dimethyl-3*H*-dicyclopropa[1,2:16,17]cyclopenta[*a*]phenanthren-3-one $C_{23}H_{27}ClO_2$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
glidanilum glidanile	5′-chloro-2-[*p*-[(5-isobutyl-2-pyrimidinyl)sulfamoyl]phenyl]-*o*-acetanisidide $C_{23}H_{25}ClN_4O_4S$ 
hachimycinum hachimycin	an antibiotic obtained from cultures of *Streptomyces hachijoensis*, or the same substance produced by any other means
hydrotalcitum hydrotalcite	aluminum magnesium hydroxide carbonate hydrate $Mg_6Al_2(OH)_{16}CO_3{\cdot}4H_2O$
ifosfamidum ifosfamide	3-(2-chloroethyl)-2-[(2-chloroethyl)amino]tetrahydro-2*H*-1,3,2-oxazaphosphorin 2-oxide $C_7H_{15}Cl_2N_2O_2P$ 
intrazolum intrazole	1-(*p*-chlorobenzoyl)-3-(1*H*-tetrazol-5-ylmethyl)indole $C_{17}H_{12}ClN_5O$ 
josamycinum josamycin	a macrolide antibiotic obtained from cultures of *Streptomyces narbonensis var. josamyceticus* var. *nova*, or the same substance produced by any other means

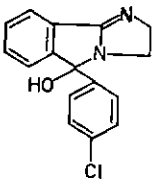
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
lorazepamum lorazepam	7-chloro-5-(*o*-chlorophenyl)-1,3-dihydro-3-hydroxy-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{10}Cl_2N_2O_2$



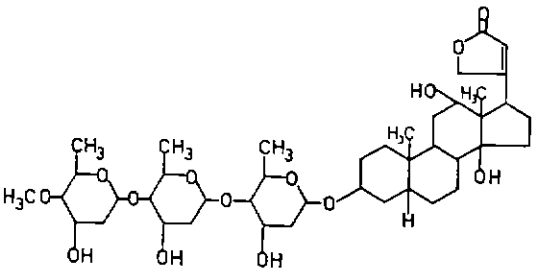
maprotilinum maprotiline	*N*-methyl-9,10-ethanoanthracene-9(10*H*)-propylamine $C_{20}H_{23}N$

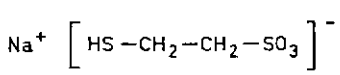
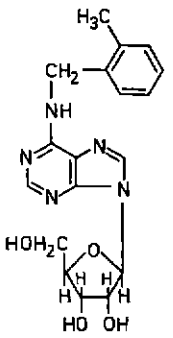
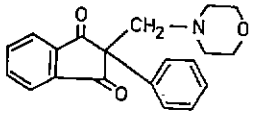
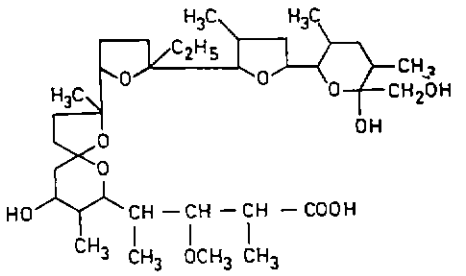


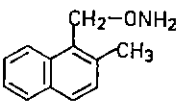
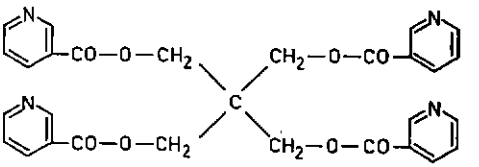
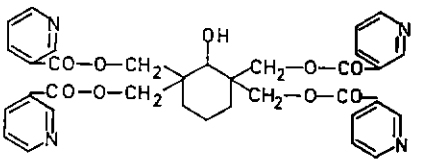
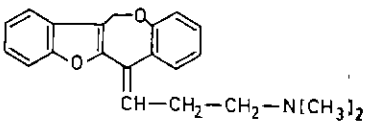
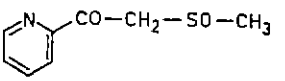
mazindolum mazindol	5-(*p*-chlorophenyl)-2,5-dihydro-3*H*-imidazo[2,1-a]isoindol-5-ol $C_{16}H_{13}ClN_2O$



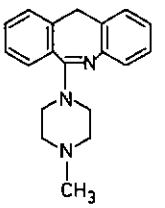
medigoxinum medigoxin	4‴-*O*-methyldigoxin $C_{42}H_{66}O_{14}$



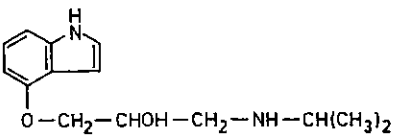
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
mesna mesna	sodium 2-mercaptoethanesulfonate $C_2H_5NaO_3S_2$ 
metrifudilum metrifudil	6-(*o*-methylbenzylamino)-9-β-D-ribofuranosyl-9*H*-purine $C_{18}H_{21}N_5O_4$ 
mofedionum mofedione	2-(morpholinomethyl)-2-phenyl-1,3-indanedione $C_{20}H_{19}NO_3$ 
monensinum monensin	2-[5-ethyltetrahydro-5-[tetrahydro-3-methyl-5-[tetrahydro-6-hydroxy-6-(hydroxymethyl)-3,5-dimethylpyran-2-yl]-2-furyl]-2-furyl]-9-hydroxy-β-methoxy-α,γ,2,8-tetramethyl-1,6-dioxaspiro[4,5]decane-7-butyric acid $C_{36}H_{62}O_{11}$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
nafominum nafomine	*O*-[(2-methyl-1-naphthyl)methyl]hydroxylamine $C_{12}H_{13}NO$ 
niceritrolum niceritrol	pentaerythritol tetranicotinate $C_{29}H_{24}N_4O_8$ 
nicomolum nicomol	2-hydroxy-1,1,3,3-cyclohexanetetramethanol 1,1,3,3-tetranicotinate $C_{34}H_{32}N_4O_9$ 
oxetoronum oxetorone	*N*,*N*-dimethylbenzofuro[3,2-*c*][1]benzoxepin$\Delta^{6(12H),\gamma}$-propylamine $C_{21}H_{21}NO_2$ 
oxisuranum oxisuran	(methylsulfinyl)methyl 2-pyridyl ketone $C_8H_9NO_2S$ 

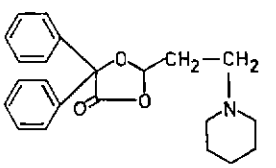
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
perlapinum perlapine	6-(4-methyl-1-piperazinyl)morphanthridine $C_{18}H_{21}N_3$



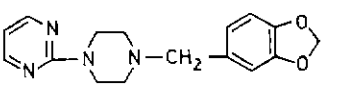
pindololum pindolol	1-(indol-4-yloxy)-3-(isopropylamino)-2-propanol $C_{14}H_{20}N_2O_2$

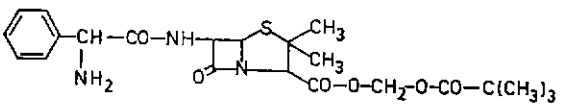
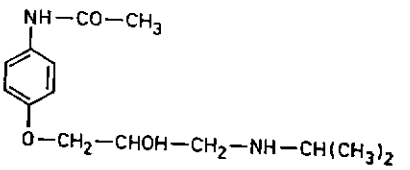
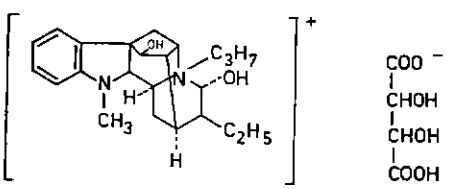
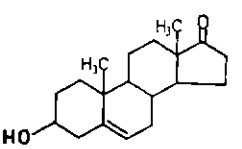


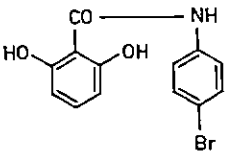
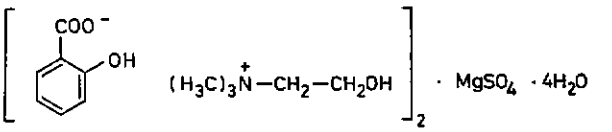
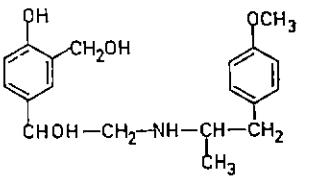
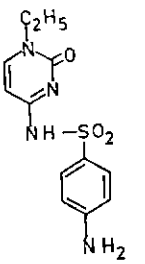
pipoxolanum pipoxolan	5,5-diphenyl-2-(2-piperidinoethyl)-1,3-dioxolan-4-one $C_{22}H_{25}NO_3$



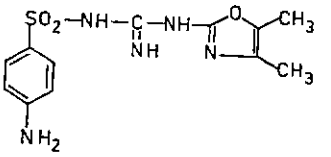
piribedilum piribedil	2-(4-piperonyl-1-piperazinyl)pyrimidine $C_{15}H_{18}N_4O_2$



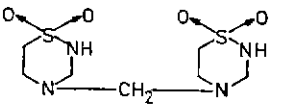
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
pivampicillinum pivampicillin	D-6-(2-amino-2-phenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid hydroxymethyl ester, pivalate (ester) $C_{22}H_{29}N_3O_6S$ 
practololum practolol	4′-[2-hydroxy-3-(isopropylamino)propoxy]acetanilide $C_{14}H_{22}N_2O_3$ 
prajmalii bitartras prajmalium bitartrate	*N*-propylajmalinium tartrate $C_{27}H_{38}N_2O_8$ 
prasteronum prasterone	3β-hydroxyandrost-5-en-17-one $C_{19}H_{28}O_2$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
resorantelum resorantel	4′-bromo-γ-resorcylanilide $C_{13}H_{10}BrNO_3$ 
salcolexum salcolex	choline salicylate compound with magnesium sulfate (2:1) tetrahydrate $[C_{12}H_{19}NO_4]_2 \cdot MgSO_4\ 4H_2O$ 
salmefamolum salmefamol	α-[(*p*-methoxy-α-methylphenethylamino)methyl]-4-hydroxy-*m*-xylene-α,α′-diol $C_{19}H_{25}NO_4$ 
sulfacitinum sulfacitine	*N*¹-(1-ethyl-1,2-dihydro-2-oxo-4-pyrimidinyl)sulfanilamide $C_{12}H_{14}N_4O_3S$ 

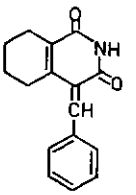
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
sulfaguanolum sulfaguanole	N^1-[(4,5-dimethyl-2-oxazolyl)amidino]sulfanilamide $C_{12}H_{15}N_5O_3S$



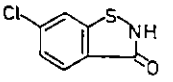
taurolinum taurolin	4,4′-methylenebis(tetrahydro-1,2,4-thiadiazine 1,1-dioxide) $C_7H_{14}N_4O_4S_2$



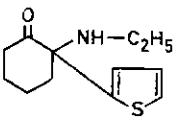
tesimidum tesimide	4-benzylidene-5,6,7,8-tetrahydro-1,3(2*H*,4*H*)-isoquinolinedione $C_{16}H_{15}NO_2$



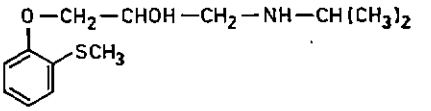
ticlatonum ticlatone	6-chloro-1,2-benzisothiazolin-3-one C_7H_4ClNOS



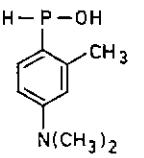
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
tiletaminum tiletamine	2-(ethylamino)-2-(2-thienyl)cyclohexanone $C_{12}H_{17}NOS$



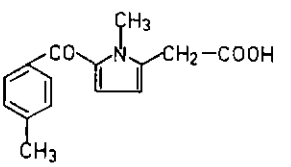
tiprenololum tiprenolol	1-(isopropylamino)-3-[*o*-(methylthio)phenoxy]-2-propanol $C_{13}H_{21}NO_2S$

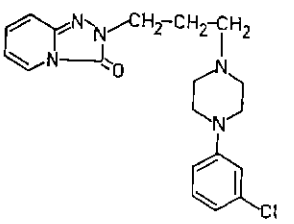
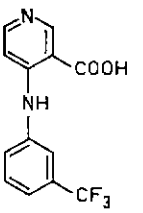
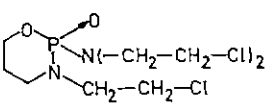
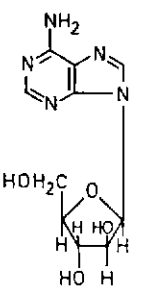


toldimfosum toldimfos	4-(dimethylamino)-*o*-tolylphosphinous acid $C_9H_{14}NOP$

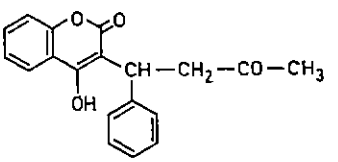


tolmetinum tolmetin	1-methyl-5-*p*-toluoylpyrrole-2-acetic acid $C_{15}H_{15}NO_3$

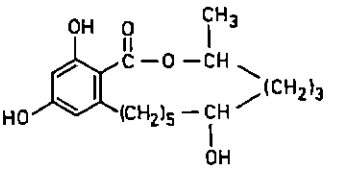


Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
trazodonum trazodone	2-[3-[4-(*m*-chlorophenyl)-1-piperazinyl]propyl]-*s*-triazolo[4,3-*a*]-pyridin-3(2*H*)-one $C_{19}H_{22}ClN_5O$ 
triflocinum triflocin	4-(α,α,α-trifluoro-*m*-toluidino)nicotinic acid $C_{13}H_9F_3N_2O_2$ 
trofosfamidum trofosfamide	3-(2-chloroethyl)-2-[bis(2-chloroethyl)amino]tetrahydro-2*H*-1,3,2-oxazaphosphorin 2-oxide $C_9H_{18}Cl_3N_2O_2P$ 
vidarabinum vidarabine	9-β-D-arabinofuranosyladenine $C_{10}H_{13}N_5O_4$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
warfarinum warfarin	3-(α-acetonylbenzyl)-4-hydroxycoumarin $C_{19}H_{16}O_4$



zeranolum zeranol	3,4,5,6,7,8,9,10,11,12-decahydro-7,14,16-trihydroxy-3-methyl-1*H*-2-benzoxacyclotetradecin-1-one $C_{18}H_{26}O_5$



AMENDMENTS TO PREVIOUS LISTS

Vol. 23, No. 9

PROPOSED INTERNATIONAL NONPROPRIETARY NAMES (*Prop. I.N.N.*): LIST 22

p. 421: *delete*

alufibratum alufibrate	bis[2-(*p*-chlorophenoxy)-2-methylpropionato]hydroxyaluminium $C_{20}H_{21}AlCl_2O_7$

INTERNATIONAL NONPROPRIETARY NAMES FOR PHARMACEUTICAL PREPARATIONS
CUMULATIVE LIST No. 2, 1967

	delete	*insert*
p. 33:	diaphenylsulfonum diaphenylsulfone	dapsonum dapsone
p. 34:	dietroxinum dietroxine	diethadionum diethadione
p. 75:	phenododecinii bromidum phenododecinium bromide	domiphen bromidum domiphen bromide

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Annex

PROCEDURE FOR THE SELECTION OF RECOMMENDED INTERNATIONAL NONPROPRIETARY NAMES FOR PHARMACEUTICAL SUBSTANCES *

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

1. Proposals for recommended international nonproprietary 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 Nonproprietary Names ", appended to this procedure. 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.

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 nonproprietary name is being considered.

A. Such notice shall be given by publication in the *Chronicle of the World Health Organization* [1] 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 pre-

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* Text adopted by the Executive Board of WHO in resolution EB15 R7 (*Off. Rec. Wld Hlth Org.*, 1955, 60, 3) and amended by the Board in resolution EB43 R9 (*Off. Rec. Wld Hlth Org.*, 1969, 173, 10).

[1] The title of this publication was changed to *WHO Chronicle* in January 1959

judice 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 nonproprietary 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 nonproprietary name.

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

A. request that it be recognized as the nonproprietary 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.

GENERAL PRINCIPLES FOR GUIDANCE IN DEVISING INTERNATIONAL NONPROPRIETARY NAMES FOR PHARMACEUTICAL SUBSTANCES *

1. 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 common use.

2. The name for a substance belonging to a group of pharmacologically related substances should, where appropriate, show this relationship. Names that are likely to convey to a patient an anatomical, physiological, pathological or therapeutic suggestion should be avoided.

The above primary principles are to be implemented by utilization of the following secondary principles.

3. In devising the name of the first substance in a new pharmacological group (the parent substance), consideration should be given to the possibility of devising suitable names for related substances belonging to the new group.

4. Syllables such as "methylhydro", "methoxy" and "chlor" should preferably be abbreviated (to "medro", "meto", "clo", etc.).

5. In the naming of substances which are acids, existing names generally used in chemistry which include the word "acidum" ("acid") should be used, if the name is adequate for practical use in therapy and pharmacy. In other circumstances, the substance should be named by a single word and not by a name which includes the word "acid". Where the word "acid" is not used in the name, as is customary in the penicillin series, a salt should preferably be named without modification of the parent acid name, e.g., "oxacillin" and "oxacillin sodium".

6. Names for substances which are used as salts should in general apply to the active base (or the active acid). Names for different salts or esters of the same active substance should differ only in respect of the name of the inactive acid (or the inactive base). Exceptions may have to be made for those cases in which pharmacological activity may reside in both parts of the salt or ester.

For quaternary ammonium substances, the cation and anion should be named appropriately as separate components of a quaternary substance and not in the amine-salt style.

7. The use of an isolated letter or number should be avoided; hyphenated construction is also undesirable.

8. To facilitate translation and pronunciation "f" should preferably be used instead of "ph", "t" instead of "th", "e" instead of "ae" or "oe", and "i" instead of "y".

9. Provided that the names suggested are in accordance with these principles, names proposed by the person discovering or first developing and marketing a pharmaceutical preparation, or names already officially in use in any country, should receive preferential consideration.

10. Group relationship in names (see item 2) should preferably be shown by using common syllables in the following list. Where a syllable or a group of syllables is shown without any hyphens it may be used

* Text revised by the Expert Committee on Nonproprietary Names for Pharmaceutical Preparations (unpublished reports WHO/Pharm/67.443 and WHO/Pharm/68.447).

anywhere in the name. The syllable, or group of syllables, should, if possible, be used only for such substances.

Subsidiary group relationships should be shown by devising names which show similarities to and are analogous with a previously named substance, the parent substance.

At the end of the list are general chemical syllables. Should they come into conflict with other suggested syllables, the suffix conveying the best information should be used.

Latin	*English*	*French*	
-andr- or -stan- or -ster-	-andr- or -stan- or -ster-	-andr- or -stan- or -ster-	steroids, androgenic
-apol-	-apol-	-apol-	polysulfonic anticoagulants
-arolum	-arol	-arol	anticoagulants
-bamatum	-bamate	-bamate	tranquillizers of the propanediol and pentanediol series
barb	barb	barb	barbituric acids, hypnotic activity
bol	bol	bol	anabolic steroids
-cainum	-caine	-caïne	local anaesthetics
cef-	cef-	cef-	antibiotics with cefalosporanic acid nucleus
-cillinum	-cillin	-cilline	penicillins: derivatives of carboxy-6-amino-penicillanic acid
-cort-	-cort-	-cort-	steroids, glucocorticoids and mineralocorticoids, other than prednisolone derivatives
-crinum	-crine	-crine	acridine derivatives
-curonium	-curonium	-curonium	curare-like drugs
-cyclinum	-cycline	-cycline	antibiotics, tetracycline derivatives
-dionum	-dione	-dione	antiepileptics derived from oxazolidinedione
-estr-	-estr-	-estr-	estrogenic drugs
-gest-	-gest-	-gest-	steroids, progestative
gli-	gli-	gli-	sulfonamide oral antidiabetics
io-	io-	io-	iodine-containing contrast media
-mer-	-mer-	-mer-	mercury-containing drugs, antimicrobial or diuretic
mito-	mito-	mito-	nucleotoxic, antineoplastic agents
-moxinum	-moxin	-moxine	monoamine oxidase inhibitors
-mycinum	-mycin	-mycine	antimicrobial antibiotics, produced by *Streptomyces* strains
nifur-	nifur-	nifur-	5-nitrofuran derivatives
-orexum	-orex	-orex	anorexigenic agents
-praminum	-pramine	-pramine	dibenzazepine, compounds of the imipramine type
-quinum	-quine	-quine	quinoline derivatives
-serpinum	-serpine	-serpine	derivatives of *Rauwolfia* alkaloids
-stigminum	-stigmine	-stigmine	anticholinesterases
sulfa-	sulfa-	sulfa-	sulfonamides, used as antimicrobials
-tizidum	-tizide	-tizide	diuretics which are thiazide derivatives
-toinum	-toin	-toïne	antiepileptics which are hydantoin derivatives
-verinum	-verine	-vérine	spasmolytics with a papaverine-like action
-inum	-ine	-ine	alkaloids and organic bases
-onum	-one	-one	ketones
-ium	-ium	-ium	quaternary amines