Reprinted from *WHO Chronicle*, Vol. 27, No. 3

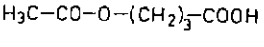
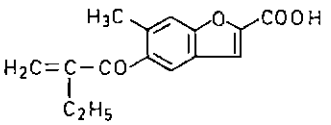
# International Nonproprietary Names for Pharmaceutical Substances

In accordance with article 3 of the Procedure for the Selection of Recommended International Nonproprietary Names for Pharmaceutical Substances,[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 29 [2]

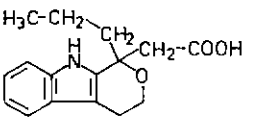
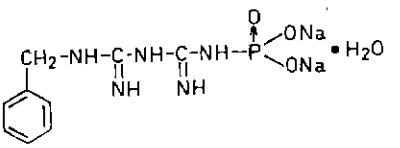
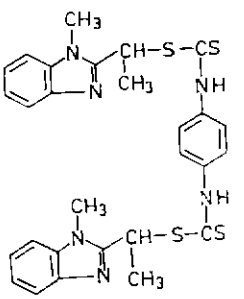
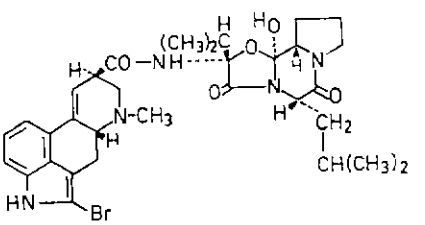
| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| acidum aceburicum<br>aceburic acid | 4-hydroxybutyric acid acetate<br>$C_6H_{10}O_4$<br>  |
| acidum furacrinicum<br>furacrinic acid | 6-methyl-5-(2-methylenebutyryl)-2-benzofurancarboxylic acid<br>$C_{15}H_{14}O_4$<br>  |

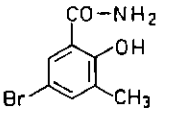
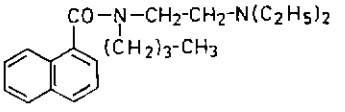
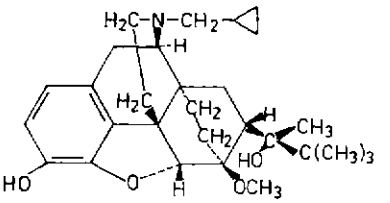
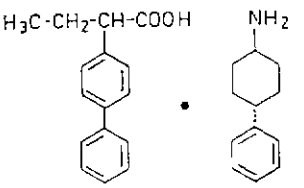
All names from lists 1–25 of proposed international nonproprietary names, together with a molecular formula index, will be found in: World Health Organization (1971) *International nonproprietary names for pharmaceutical substances: Cumulative list No. 3, 1971*, Geneva, 189 pages (price: £2.40, $6.00, or Sw. fr. 24.—).

[1] See Annex, p 21.

[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, 183, 418; 1970, 24, 119, 413; 1971, 25, 123, 415; 1972, 26, 121, 414.

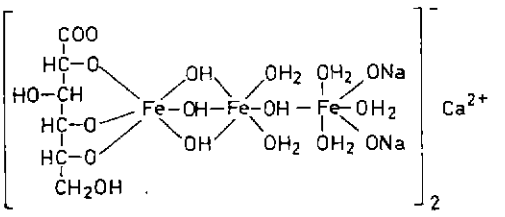
Lists of recommended international nonproprietary names were published in *Chron. Wld Hlth Org.*, 1955, 9, 185; *WHO Chronicle*, 1959, 13, 106, 463; 1962, 16, 101; 1965, 19, 165, 206, 249; 1966, 20, 421; 1967, 21, 538; 1968, 22, 463; 1969, 23, 490; 1970, 24, 526; 1971, 25, 476; 1972, 26, 476.

| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| acidum prodolicum<br>prodolic acid | 1,3,4,9-tetrahydro-1-propylpyrano[3,4-*b*]indole-1-acetic acid<br>$C_{16}H_{19}NO_3$<br>  |
| avoparcinum<br>avoparcin | a glycopeptide antibiotic obtained from cultures of *Streptomyces candidus*, or the same substance produced by any other means |
| batroxobinum<br>batroxobin | a thrombinlike enzyme obtained from the venom of the serpent *Bothrops atrox* |
| benfosforminum<br>benfosformin | disodium [(benzylamidino)amidino]phosphoramidate monohydrate<br>$C_9H_{12}N_5Na_2O_3P.H_2O$<br>  |
| bisbendazolum<br>bisbendazole | bis[1-(1-methyl-2-benzimidazolyl)ethyl] tetrathio-*p*-benzenedicarbamate<br>$C_{28}H_{28}N_6S_4$<br>  |
| bromocriptinum<br>bromocriptine | 2-bromoergocryptine<br>$C_{32}H_{40}BrN_5O_5$<br>  |

| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| brosotamidum<br>brosotamide | 5-bromo-2,3-cresotamide<br>$C_8H_8BrNO_2$<br>  |
| bunaftinum<br>bunaftine | *N*-butyl-*N*-[2-(diethylamino)ethyl]-1-naphthamide<br>$C_{21}H_{30}N_2O$<br>  |
| buprenorphinum<br>buprenorphine | 21-cyclopropyl-7α-[(*S*)-1-hydroxy-1,2,2-trimethylpropyl]-6,14-*endo*-ethano-6,7,8,14-tetrahydrooripavine<br>$C_{29}H_{41}NO_4$<br>  |
| butixiratum<br>butixirate | α-ethyl-4-biphenylacetic acid compound with *trans*-4-phenylcyclohexylamine (1 : 1)<br>$C_{16}H_{16}O_2 \cdot C_{12}H_{17}N$ *or* $C_{28}H_{33}NO_2$<br>  |

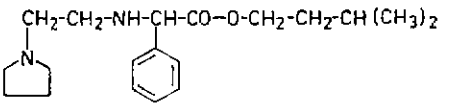
calcii natrii ferriclas
calcium sodium ferriclate

monocalcium tetrasodium bis[pentaaqua-[D-gluconato(4-)]-tetra-$\mu$-hydroxy-dioxotriferrate(3-)]
$C_{12}H_{44}CaFe_6Na_4O_{36}$



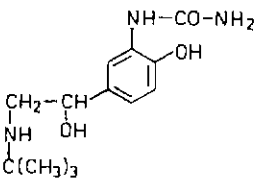
camiverinum
camiverine

2-phenyl-*N*-[2-(1-pyrrolidinyl)ethyl]glycine isopentyl ester
$C_{19}H_{30}N_2O_2$



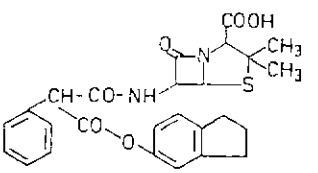
carbuterolum
carbuterol

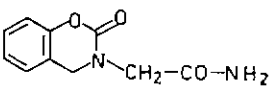
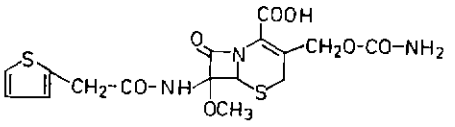
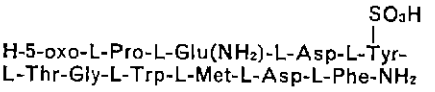
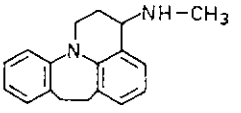
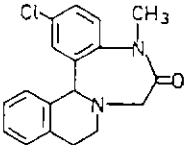
[5-[2-(*tert*-butylamino)-1-hydroxyethyl]-2-hydroxyphenyl]urea
$C_{13}H_{21}N_3O_3$

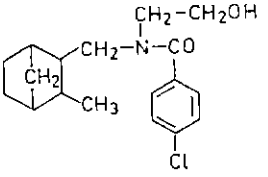
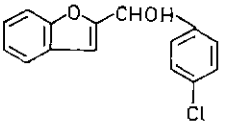
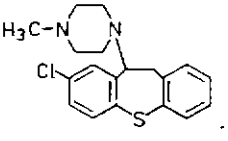
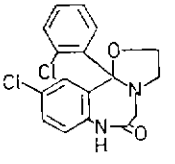


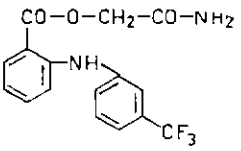
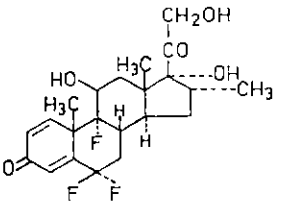
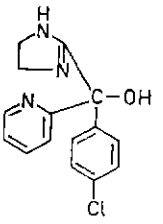
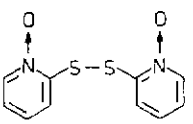
carindacillinum
carindacillin

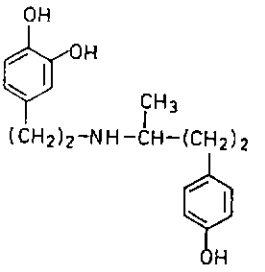
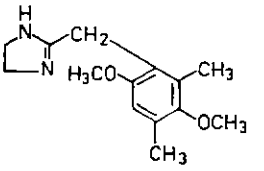
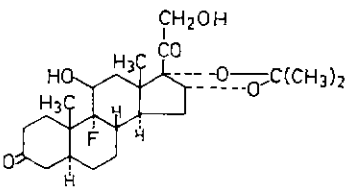
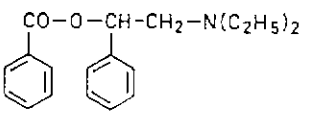
*N*-(2-carboxy-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]-hept-6-yl)-2-phenylmalonamic acid 1-(5-indanyl) ester
$C_{26}H_{26}N_2O_6S$

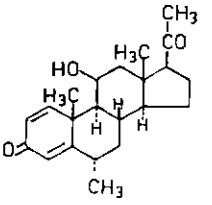
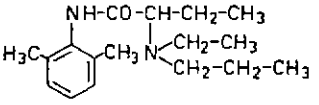
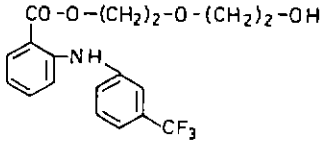
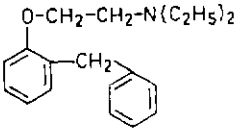


| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| caroxazonum<br>caroxazone | 2-oxo-2*H*-1,3-benzoxazine-3(4*H*)-acetamide<br>$C_{10}H_{10}N_2O_3$<br>  |
| cefoxitinum<br>cefoxitin | 3-(hydroxymethyl)-7-methoxy-8-oxo-7-[2-(2-thienyl)acetamido]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid carbamate (ester)<br>$C_{16}H_{17}N_3O_7S_2$<br>  |
| ceruletidum<br>ceruletide | 5-oxo-L-prolyl-L-glutaminyl-L-aspartyl-L-tyrosyl-L-threonylglycyl-L-tryptophyl-L-methionyl-L-aspartylphenyl-L-alaninamide 4-(hydrogen sulfate) (ester)<br>$C_{58}H_{73}N_{13}O_{21}S_2$<br>  |
| ciclopraminum<br>ciclopramine | 2,3,7,8-tetrahydro-3-(methylamino)-1*H*-quino[1,8-*ab*][1]benzazepine<br>$C_{18}H_{20}N_2$<br>  |
| clazolamum<br>clazolam | (+)-2-chloro-5,9,10,14b-tetrahydro-5-methylisoquino[2,1-*d*]1,4]-benzodiazepin-6(7*H*)-one<br>$C_{18}H_{17}ClN_2O$<br>  |

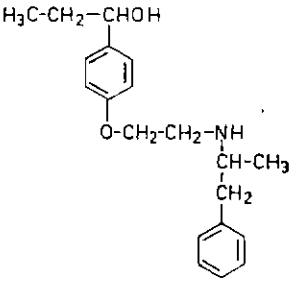
| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| clocanfamidum<br>clocanfamide | *p*-chloro-*N*-(2-hydroxyethyl)-*N*-[(3-methyl-2-norbornyl)methyl]-benzamide<br>$C_{18}H_{24}ClNO_2$ |
| |  |
| cloridarolum<br>cloridarol | α-(*p*-chlorophenyl)-2-benzofuranmethanol<br>$C_{15}H_{11}ClO_2$ |
| |  |
| clorotepinum<br>clorotepine | 1-(8-chloro-10,11-dihydrodibenzo[*b*,*f*]thiepin-10-yl)-4-methylpiperazine<br>$C_{19}H_{21}ClN_2S$ |
| |  |
| cloxazolamum<br>cloxazolam | 10-chloro-11b-(*o*-chlorophenyl)-2,3,7,11b-tetrahydro-oxazolo[3,2-*d*][1,4]benzodiazepin-6(5*H*)-one<br>$C_{17}H_{14}Cl_2N_2O_2$ |
| |  |

| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| colfenamatum<br>colfenamate | *N*-(α,α,α-trifluoro-*m*-tolyl)anthranilic acid, ester with glycolamide<br>$C_{16}H_{13}F_3N_2O_3$<br>  |
| cormetasonum<br>cormetasone | 6,6,9-trifluoro-11β,17,21-trihydroxy-16α-methylpregna-1,4-diene-3,20-dione<br>$C_{22}H_{27}F_3O_5$<br>  |
| dazadrolum<br>dazadrol | α-(*p*-chlorophenyl)-α-2-imidazolin-2-yl-2-pyridinemethanol<br>$C_{15}H_{14}ClN_3O$<br>  |
| dectaflurum<br>dectaflur | 9-octadecenylamine hydrofluoride<br>$C_{18}H_{37}N \cdot HF$ *or* $C_{18}H_{38}FN$<br>$H_3C\text{-}(CH_2)_7\text{-}CH{=}CH\text{-}(CH_2)_7\text{-}CH_2{-}NH_2 \bullet HF$ |
| dipyrithionum<br>dipyrithione | 2,2′-dithiodipyridine 1,1′-dioxide<br>$C_{10}H_8N_2O_2S_2$<br>  |

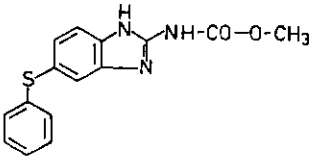
| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| dobutaminum<br>dobutamine | (±)-4-[2-[[3-(*p*-hydroxyphenyl)-1-methylpropyl]amino]ethyl]pyrocatechol<br>$C_{18}H_{23}NO_3$<br>  |
| doxazolinum<br>doxazoline | 2-(3,6-dimethoxy-2,4-dimethylbenzyl)-2-imidazoline<br>$C_{14}H_{20}N_2O_2$<br>  |
| drocinonidum<br>drocinonide | 9-fluoro-11*β*,16*α*,17,21-tetrahydroxy-5*α*-pregnane-3,20-dione cyclic 16,17-acetal with acetone<br>$C_{24}H_{35}FO_6$<br>  |
| elucainum<br>elucaine | *α*-[(diethylamino)methyl]benzyl alcohol benzoate (ester)<br>$C_{19}H_{23}NO_2$<br>  |

| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| endrisonum<br>endrisone | 11$\beta$-hydroxy-6$\alpha$-methylpregna-1,4-diene-3,20-dione<br>$C_{22}H_{30}O_3$ |
| |  |
| etidocainum<br>etidocaine | (±)-2-(*N*-ethylpropylamino)-2',6'-butyroxylidide<br>$C_{17}H_{28}N_2O$ |
| |  |
| etofenamatum<br>etofenamate | 2-(2-hydroxyethoxy)ethyl-*N*-($\alpha,\alpha,\alpha$-trifluoro-*m*-tolyl)anthranilate<br>$C_{18}H_{18}F_3NO_4$ |
| |  |
| etoloxaminum<br>etoloxamine | 2-[($\alpha$-phenyl-*o*-tolyl)oxy]triethylamine<br>$C_{19}H_{25}NO$ |
| |  |

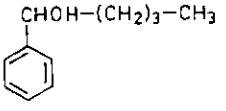
| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| fenalcominum<br>fenalcomine | α-ethyl-*p*-[2-[(α-methylphenethyl)amino]ethoxy]benzyl alcohol<br>$C_{20}H_{27}NO_2$ |



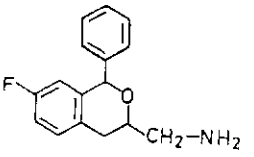
| | |
|---|---|
| fenbendazolum<br>fenbendazole | methyl 5-(phenylthio)-2-benzimidazolecarbamate<br>$C_{15}H_{13}N_3O_2S$ |

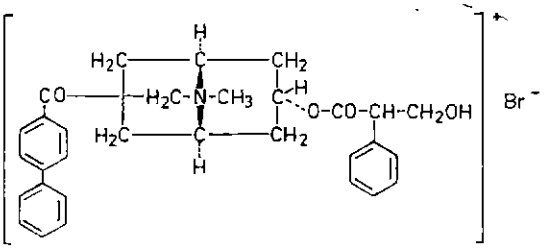
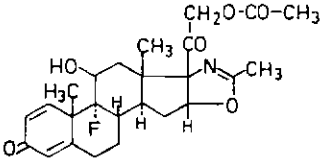
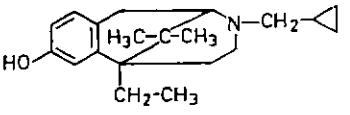
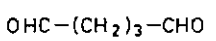
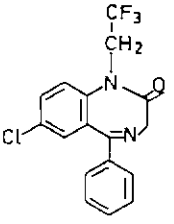


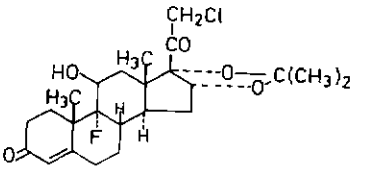
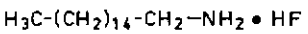
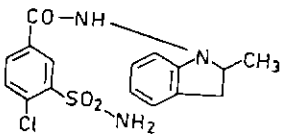
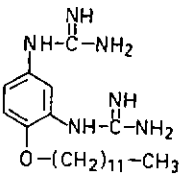
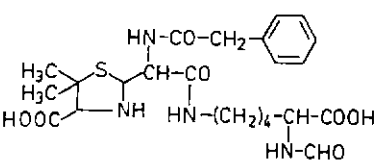
| | |
|---|---|
| fenipentolum<br>fenipentol | α-butylbenzyl alcohol<br>$C_{11}H_{16}O$ |



| | |
|---|---|
| fenisorexum<br>fenisorex | *cis*-7-fluoro-1-phenyl-3-isochromanmethylamine<br>$C_{16}H_{16}FNO$ |

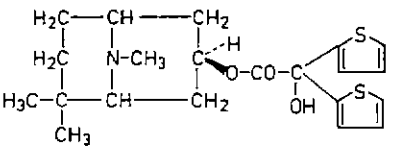


| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| fentonii bromidum<br>fentonium bromide | 3α-hydroxy-8-(*p*-phenylphenacyl)-1αH,5αH-tropanium bromide (−)-tropate<br>$C_{31}H_{34}BrNO_4$<br>  |
| fluazacortum<br>fluazacort | 9-fluoro-11β,21-dihydroxy-2'-methyl-5'βH-pregna-1,4-dieno[17,16-*d*]oxazole-3,20-dione 21-acetate<br>$C_{25}H_{30}FNO_6$<br>  |
| gemazocinum<br>gemazocine | 3-(cyclopropylmethyl)-6-ethyl-1,2,3,4,5,6-hexahydro-11,11-dimethyl-2,6-methano-3-benzazocin-8-ol<br>$C_{20}H_{29}NO$<br>  |
| glutaralum<br>glutaral | pentanedial *or* glutaraldehyde<br>$C_5H_8O_2$<br>  |
| halazepamum<br>halazepam | 7-chloro-1,3-dihydro-5-phenyl-1-(2,2,2-trifluoroethyl)-2*H*-1,4-benzodiazepin-2-one<br>$C_{17}H_{12}ClF_3N_2O$<br>  |

| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| halcinonidum<br>halcinonide | 21-chloro-9-fluoro-11$\beta$,16$\alpha$,17-trihydroxypregn-4-ene-3,20-dione cyclic 16,17-acetal with acetone<br>$C_{24}H_{32}ClFO_5$<br>  |
| hetaflurum<br>hetaflur | hexadecylamine hydrofluoride<br>$C_{16}H_{35}N \cdot HF$ *or* $C_{16}H_{36}FN$<br>  |
| indapamidum<br>indapamide | 4-chloro-*N*-(2-methyl-1-indolinyl)-3-sulfamoylbenzamide<br>$C_{16}H_{16}ClN_3O_3S$<br>  |
| lauroguadinum<br>lauroguadine | 1,1'-[4-(dodecycloxy)-*m*-phenylene]diguanidine<br>$C_{20}H_{36}N_6O$<br>  |
| lisocillidum<br>lisocillide | 2-[[(5-carboxy-5-formamidopentyl)carbamoyl](2-phenylacetamido)-methyl]-5,5-dimethyl-4-thiazolidinecarboxylic acid<br>$C_{23}H_{32}N_4O_7S$<br>  |

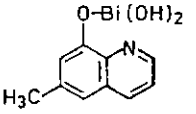
mazaticolum
mazaticol

6,6,9-trimethyl-9-azabicyclo[3.3.1]non-3$\beta$-yl di-2-thienylglycolate
$C_{21}H_{27}NO_3S_2$



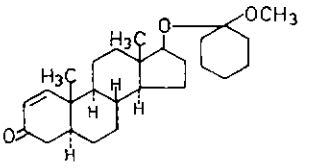
mebiquinum
biquine

dihydroxy(6-methyl-8-quinolinolato)bismuth
$C_{10}H_{10}BiNO_3$



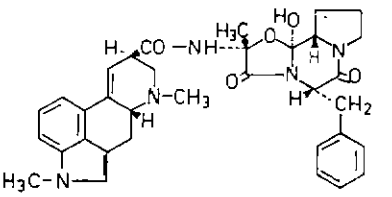
mesabolonum
mesabolone

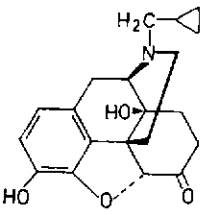
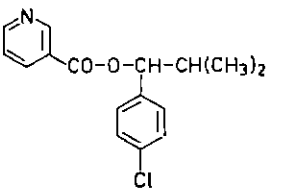
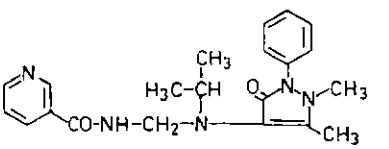
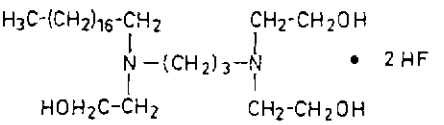
17$\beta$-[(1-methoxycyclohexyl)oxy]-5$\alpha$-androst-1-en-3-one
$C_{26}H_{40}O_3$



metergotaminum
metergotamine

1-methylergotamine
$C_{34}H_{37}N_5O_5$



| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| naltrexonum<br>naltrexone | (–)-17-(cyclopropylmethyl)-4,5α-epoxy-3,14-dihydroxymorphinan-6-one<br>$C_{20}H_{23}NO_4$<br>  |
| nicoclonatum<br>nicoclonate | *p*-chloro-α-isopropylbenzyl nicotinate<br>$C_{16}H_{16}ClNO_2$<br>  |
| niprofazonum<br>niprofazone | *N*-[(antipyrinylisopropylamino)methyl]nicotinamide<br>$C_{21}H_{25}N_5O_2$<br>  |
| olaflurum<br>olaflur | 2,2'-[[3-[(2-hydroxyethyl)octadecylamino]propyl]imino]diethanol dihydrofluoride<br>$C_{27}H_{58}N_2O_3 \cdot 2HF$ *or* $C_{27}H_{60}F_2N_2O_3$<br>  |

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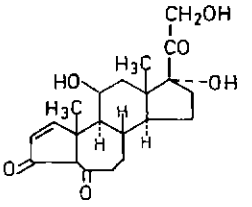
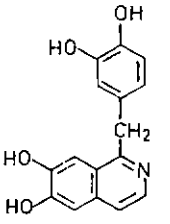
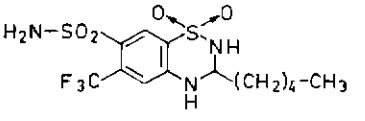
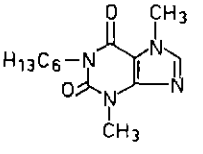
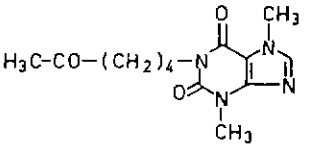
|---|---|
| oxisopredum<br>oxisopred | 11$\beta$,17,21-trihydroxy-*B*-homo-*A*-norpregn-1-ene-3,6,20-trione<br>$C_{21}H_{28}O_6$<br>  |
| ,averolinum<br>papaveroline | 1-(3,4-dihydroxybenzyl)-6,7-isoquinolinediol<br>$C_{16}H_{13}NO_4$<br>  |
| penflutizidum<br>penflutizide | 3,4-dihydro-3-pentyl-6-(trifluoromethyl)-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide<br>$C_{13}H_{18}F_3N_3O_4S_2$<br>  |
| pentifyllinum<br>pentifylline | 1-hexyltheobromine<br>$C_{13}H_{20}N_4O_2$<br>  |

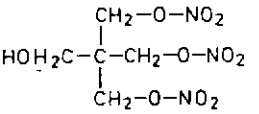
pentoxifyllinum
pentoxifylline

1-(5-oxohexyl)theobromine
$C_{13}H_{18}N_4O_3$



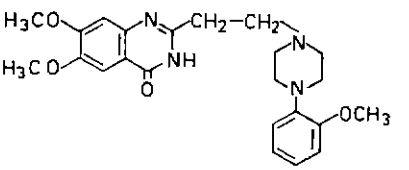
pentrinitrolum
pentrinitrol

pentaerythritol trinitrate
$C_5H_9N_3O_{10}$



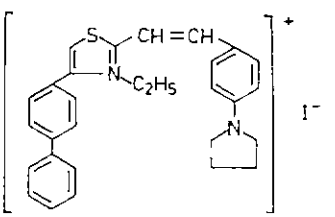
peraquinsinum
peraquinsin

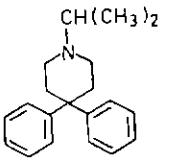
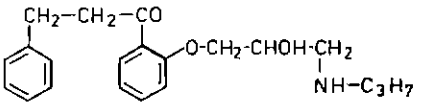
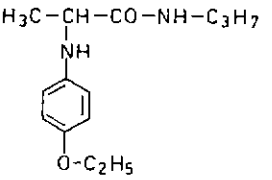
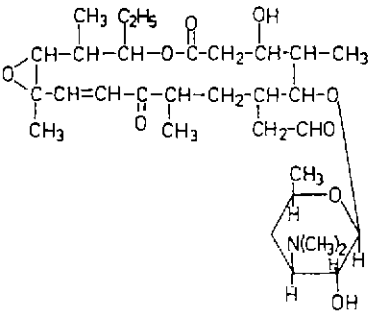
6,7-dimethoxy-2-[2-[4-(*o*-methoxyphenyl)-1-piperazinyl]ethyl]-4(3*H*)-quinazolinone
$C_{23}H_{28}N_4O_4$



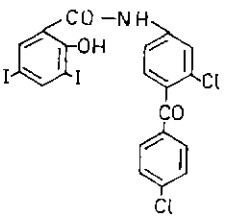
pretamazii iodidum
pretamazium iodide

4-(4-biphenylyl)-3-ethyl-2-(*p*-1-pyrrolidinylstyryl)thiazolium iodide
$C_{29}H_{29}IN_2S$

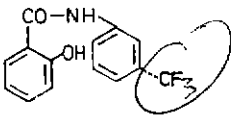


| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| prodipinum<br>prodipine | 1-isopropyl-4,4-diphenylpiperidine<br>$C_{20}H_{25}N$<br>  |
| propafenonum<br>propafenone | 2'-[2-hydroxy-3-(propylamino)propoxy]-3-phenylpropiophenone<br>$C_{21}H_{27}NO_3$<br>  |
| propetamidum<br>propetamide | 2-*p*-phenetidino-*N*-propylpropionamide<br>$C_{14}H_{22}N_2O_2$<br>  |
| ..micinum<br>rosamicin | 3-ethyl-7-hydroxy-2,8,12,16-tetramethyl-5,13-dioxo-9-[[3,4,6-trideoxy-3-(dimethylamino)-β-D-*xylo*-hexopyranosyl]oxy]-4,17-dioxabicyclo[14.1.0]heptadec-14-ene-10-acetaldehyde<br>$C_{31}H_{51}NO_9$<br>  |

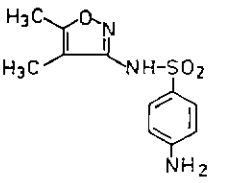
| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| salantelum<br>salantel | 3'-chloro-4'-(*p*-chlorobenzoyl)-3,5-diiodosalicylanilide<br>$C_{20}H_{11}Cl_2I_2NO_3$ |



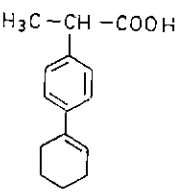
| | |
|---|---|
| salfluverinum<br>salfluverine | α,α,α-trifluoro-*m*-salicylotoluidide<br>$C_{14}H_{10}F_3NO_2$ |

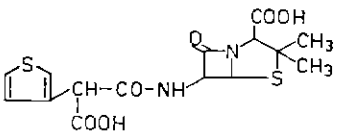
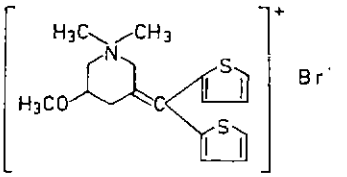
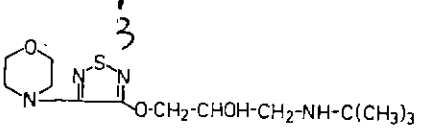
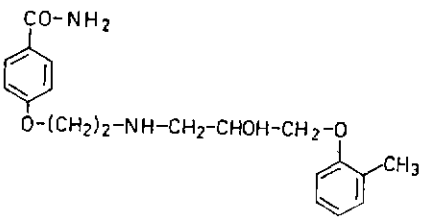
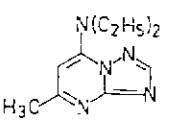


| | |
|---|---|
| sulfatroxazolum<br>sulfatroxazole | $N^1$-(4,5-dimethyl-3-isoxazolyl)sulfanilamide<br>$C_{11}H_{13}N_3O_3S$ |



| | |
|---|---|
| sulglicotidum<br>sulglicotide | the sulfuric polyester of a glycopeptide isolated from pig duodenum |
| tetriprofenum<br>tetriprofen | *p*-1-cyclohexen-1-ylhydratropic acid<br>$C_{15}H_{18}O_2$ |

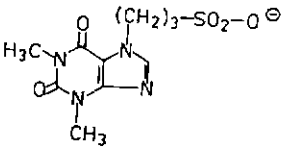


| *Proposed International Nonproprietary Name* (Latin, English) | *Chemical Name or Description, Molecular and Graphic Formulae* |
|---|---|
| ticarcillinum<br>ticarcillin | *N*-(2-carboxy-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]-hept-6-yl)-3-thiophenemalonamic acid<br>$C_{15}H_{16}N_2O_6S_2$<br>  |
| timepidii bromidum<br>timepidium bromide | 3-(di-2-thienylmethylene)-5-methoxy-1,1-dimethyl-piperidinium bromide<br>$C_{17}H_{22}BrNOS_2$<br>  |
| timololum<br>timolol | (–)-1-(*tert*-butylamino)-3-[(4-morpholino-1,2,5-thiadiazol-3-yl)oxyl]-2-propanol<br>$C_{13}H_{24}N_4O_3S$<br>  |
| tolamololum<br>tolamolol | *p*-[2-[[2-hydroxy-3-(*o*-tolyloxy)propyl]amino]ethoxy]benzamide<br>$C_{19}H_{24}N_2O_4$<br>  |
| trapidilum<br>trapidil | 7-(diethylamino)-5-methyl-*s*-triazolo[1,5-*a*]pyrimidine<br>$C_{10}H_{15}N_5$<br>  |

## Names for Radicals and Groups

Some substances for which a proposed international nonproprietary name has been established may be used in the form of salts or esters. The radicals or groups involved may be of complex composition and it is then inconvenient to refer to them in systematic chemical nomenclature. Consequently, shorter nonproprietary names for some radicals and groups have been devised or selected, and they are suggested for use with the proposed international nonproprietary names.

1,2,3,6-tetrahydro-1,3-dimethyl-2,6-dioxopurine-7-propanesulfonate — teprosilate



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## AMENDMENTS TO PREVIOUS LISTS

Vol. 26, No. 9

### Proposed International Nonproprietary Names (Prop. I.N.N.): List 28

p.420 *delete*

difamizolum
difamizole

*insert*

difenamizolum
difenamizole

p.429 *delete*

renactidum
renactide

*insert*

giractidum
giractide

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 substances, 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 substance 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 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 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.

* 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

## 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 anatom-

* Text revised by the Expert Committee on Nonproprietary Names for Pharmaceutical Substances (unpublished reports WHO/Pharm/67.443, WHO/Pharm/68.447, and WHO/Pharm/70.458)

ical, 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. In devising a name from the systematic chemical name of a substance, syllabes such as " methylhydro ", " methoxy ", and " chlor " should preferably be abbreviated, for example, to " medro ", " meto ", and " clo "; the derived name should not be chemically misleading.

5. In devising names for acids, one-word names are preferred; their salts should be named without modifying the acid name, e.g., " oxacillin " and " oxacillin sodium ", " ibufenac " and " ibufenac sodium ". The salts of acids having two-word names such as " nicotinic acid " should be named in the usual style, e.g., " sodium nicotinate ".

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 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* | |
|---|---|---|---|
| -actidum | -actide | -actide | synthetic polypeptides with a corticotrophin-like action |
| -andr- | -andr- | -andr- | } steroids, androgenic |
| *or* -stan- | *or* -stan- | *or* -stan- | |
| *or* -ster- | *or* -ster- | *or* -ster- | |
| -arolum | -arol | -arol | anticoagulants of the coumarin type |
| -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- | céf- | antibiotics with cefalosporanic acid nucleus |
| -cillinum | -cillin | -cilline | penicillins: derivatives of 6-amino-penicillanic acid |
| cort | cort | cort | steroids, glucocorticoids and mineralocorticoids, other than prednisolone derivatives |
| -crinum | -crine | -crine | acridine derivatives |
| -curium | -curium | -curium | curare-like drugs |
| -cyclinum | -cycline | -cycline | antibiotics, tetracycline derivatives |
| -estr- | -estr- | -estr- | estrogenic drugs |
| -forminum | -formin | -formine | guanidine oral antidiabetics |
| gest | gest | gest | steroids, progestative |
| gli- | gli- | gli- | sulfonamide oral antidiabetics |
| io- | io- | io- | iodine-containing contrast media |
| -moxinum | -moxin | -moxine | monoamine oxidase inhibitors |
| -mycinum | -mycin | -mycine | antimicrobial antibiotics, produced by *Streptomyces* strains |
| nifur- | nifur- | nifur- | 5-nitrofuran derivates |
| -onidum | -onide | -onide | steroids for topical use: acetal derivatives |
| -orexum | -orex | -orex | anorexigenic agents |
| -praminum | -pramine | -pramine | dibenzazepine, compounds of the imipramine type |
| prost | prost | prost | prostaglandins |
| -serpinum | -serpine | -serpine | derivatives of *Rauwolfia* alkaloids |
| sulfa- | sulfa- | sulfa- | sulfonamides, used as antimicrobials |
| -terolum | -terol | -térol | bronchodilators: phenethylamine derivatives |
| -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 ammonium compounds |