

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*, e.g. for List 48 Prop. INN not later than 28 February 1983.

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.

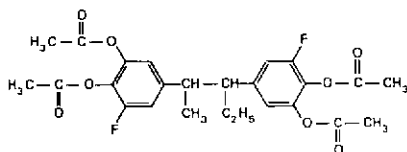
Proposed International Nonproprietary Names (Prop. INN): List 48²

Proposed International
Nonproprietary Name (Latin, English)

Chemical Name or Description, Molecular and Graphic Formulae
Chemical Abstracts Service (CAS) registry number

acefluranolum
acefluranol

4,4'-[(1*RS*,2*SR*)-1-ethyl-2-methylethylene]bis[6-fluoroprocatechol] tetraacetate
C₂₅H₂₆F₂O₈ 80595-73-9



Comprehensive information on the INN programme can be found in WHO Technical Report Series, No. 581, 1975 (*Nonproprietary Names for Pharmaceutical Substances* Twentieth Report of the WHO Expert Committee). ISBN 92 4 120581 4 (price, Sw. fr. 6.-), an account of this publication will be found on page 27 of this Supplement (Annex 2). All names from Lists 1-47 of Proposed International Nonproprietary Names, together with a molecular formula index, will be found in *International Nonproprietary Names for Pharmaceutical Substances Cumulative list No. 6, 1982*, World Health Organization, Geneva, in press (ISBN 92 4 056013 0) (price: Sw. fr. 55.-). This publication consists, in the main, of a computer printout which groups together all the proposed and recommended international nonproprietary names (INN)—in Latin, English, French, Russian, and Spanish—published up to April 1982. The printout also indicates in which of the 47 individual lists of proposed names and 21 lists of recommended names each INN was originally published, and gives references to national nonproprietary names, pharmacopoeia monographs, and other sources. In addition, the list contains molecular formulae and Chemical Abstracts Service registry numbers. For easy reference, national nonproprietary names that differ from INN, molecular formulae, and Chemical Abstracts Service registry numbers are indexed in a series of annexes. A final annex describes the procedure for selecting recommended INN and outlines the general principles to be followed in devising these names. All the textual material published in this volume appears in both English and French.

These publications may be obtained, direct or through booksellers, from the sales agents listed on the back cover of the *WHO Chronicle*. Orders from countries where sales agents have not yet been appointed may be addressed to World Health Organization, Distribution and Sales Service, 1211 Geneva 27, Switzerland.

¹ See Annex 1, p. 26.

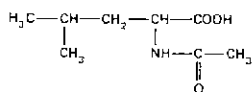
² Other lists of proposed and recommended international nonproprietary names can be found in *Cumulative list No. 6, 1982*, to be published shortly.

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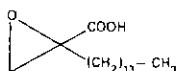
acetylleucinum
acetylleucine

N-acetyl-DL-leucine
C₈H₁₅NO₃ 99-15-0



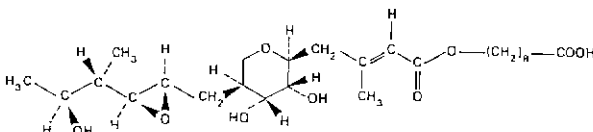
acidum palmoxicum
palmoxiric acid

(±)-2-tetradecylglycidic acid
C₁₇H₃₂O₃ 68170-97-8



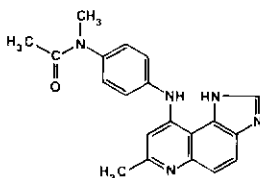
acidum pseudomonicum
pseudomonic acid

(*E*)-(2*S*,3*R*,4*R*,5*S*)-5-[(2*S*,3*S*,4*S*,5*S*)-2,3-epoxy-5-hydroxy-4-methylhexyl]tetrahydro-3,4-dihydroxy-β-methyl-2*H*-pyran-2-crotonic acid, ester with 9-hydroxynonanoic acid
C₂₆H₄₄O₉ 12650-69-0



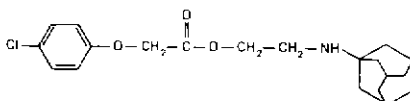
acodazolium
acodazole

N-methyl-4'-[(7-methyl-1*H*-imidazo[4,5-*f*]quinolin-9-yl)amino]acetanilide
C₂₀H₁₉N₅O 79152-85-5



adafenoxatum
adafenoxate

2-(1-adamantylamino)ethyl (*p*-chlorophenoxy)acetate
C₂₀H₂₆ClNO₃ 82168-26-1

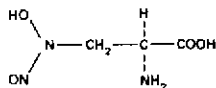


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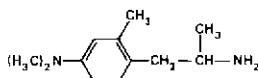
alanosinum
alanosine

(-)-(S)-2-amino-3-(hydroxynitrosamino)propionic acid
C₃H₇N₃O₄ 5854-93-3



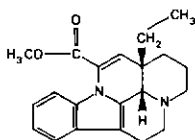
amiflaminum
amiflamine

(+)-4-(dimethylamino)- α ,2-dimethylphenethylamine
C₁₂H₂₀N₂ 77518-07-1



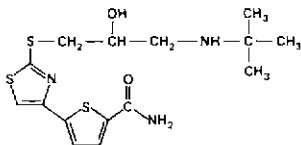
apovincaminum
apovincamine

methyl (3 α ,16 α)-eburnamenine-14-carboxylate *or* methyl (13a*S*,13b*S*)-13a-ethyl-2,3,5,6,13a,13b-hexahydro-1*H*-indolo[3,2,1-*de*]pyrido[3,2,1-*ij*][1,5]naphthyridine-12-carboxylate
C₂₁H₂₄N₂O₂ 4880-92-6



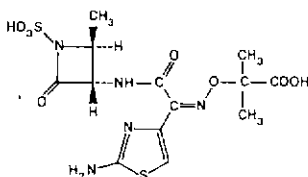
arotinololum
arotinolol

(\pm)-5-[2-[[3-(*tert*-butylamino)-2-hydroxypropyl]thio]-4-thiazolyl]-2-thiophene-carboxamide
C₁₅H₂₁N₃O₂S₃ 68377-92-4



aztreonamum
aztreonam

(Z)-2-[[[(2-amino-4-thiazolyl)[[(2*S*,3*S*)-2-methyl-4-oxo-1-sulfo-3-azetidiny]carbamoyl]methylene]amino]oxy]-2-methylpropionic acid
C₁₃H₁₇N₅O₆S₂ 78110-38-0

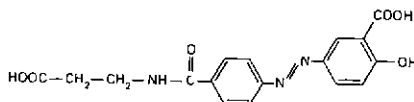


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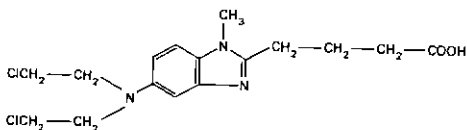
balsalazidum
balsalazide

(*E*)-5-[[*p*-[(2-carboxyethyl)carbamoyl]phenyl]azo]salicylic acid
C₁₇H₁₅N₃O₆ 80573-04-2



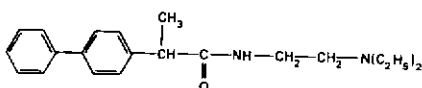
bendamustinum
bendamustine

5-[bis(2-chloroethyl)amino]-1-methyl-2-benzimidazolebutyric acid
C₁₆H₂₁Cl₂N₃O₂ 16506-27-7



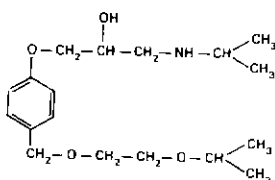
biprofenidum
biprofenide

(±)-*N*-[2-(diethylamino)ethyl]- α -methyl-4-biphenylacetamide
C₂₁H₂₈N₂O 70976-76-0



bisoprololum
bisoprolol

(±)-1-[[α -(2-isopropoxyethoxy)-*p*-tolyl]oxy]-3-(isopropylamino)-2-propanol
C₁₈H₃₁NO₄ 66722-44-9

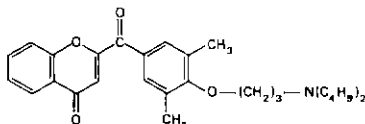


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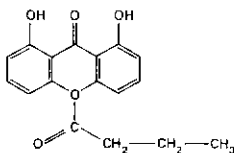
bucromaronum
bucromarone

2-[4-[3-(dibutylamino)propoxy]-3,5-dimethylbenzoyl]chromone
C₂₉H₃₇NO₄ 78371-66-1



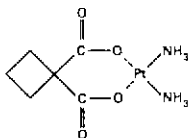
Antronum
butantrone

10-butyryl-1,8-dihydroxyanthrone
C₁₈H₁₆O₄ 75464-11-8



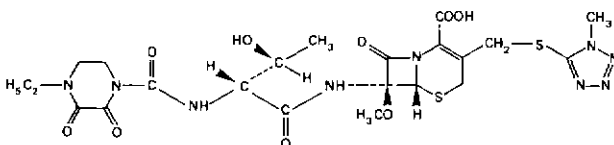
carboplatinum
carboplatin

cis-diammine(1,1-cyclobutanedicarboxylato)platinum
C₆H₁₂N₂O₄Pt 41575-94-4



cefbuperazonum
cefbuperazone

(6*R*,7*S*)-7-[(2*R*,3*S*)-2-[4-ethyl-2,3-dioxo-1-piperazinecarboxamido]-3-hydroxybutyramido]-7-methoxy-3-[[[1-methyl-1*H*-tetrazol-5-yl]thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid
C₂₂H₂₉N₅O₅S₂ 76610-84-9

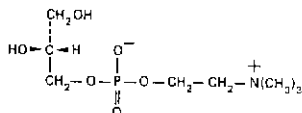


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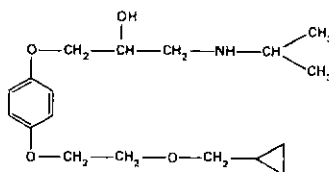
cholini glycerophosphas
choline glycerophosphate

choline hydroxide, (*R*)-2,3-dihydroxypropyl hydrogen phosphate, inner salt or
sn-glycero(3)phosphocholine
C₈H₂₀NO₆P 28319-77-9



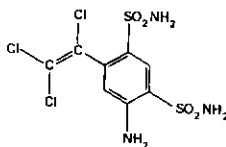
cicloprololum
cicloprolol

(±)-1-[*p*-[2-(cyclopropylmethoxy)ethoxy]phenoxy]-3-(isopropylamino)-2-prop-
anol
C₁₈H₂₉NO₄ 63659-12-1



clorsulonum
clorsulon

4-amino-6-(trichlorovinyl)-*m*-benzenedisulfonamide
C₈H₈Cl₃N₂O₄S₂ 60200-06-8

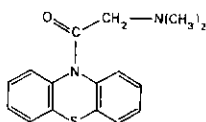


croscarmellosum
croscarmellose

crosslinked carmellose (cellulose carboxymethyl ether)
9000-11-7

dacemazinum
dacemazine

10-(*N,N*-dimethylglycyl)phenothiazine
C₁₈H₁₈N₂OS 518-61-6

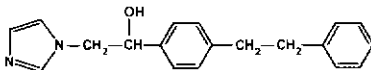


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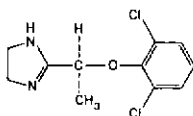
denzimolum
denzimol

(±)-α-(*p*-phenethylphenyl)imidazole-1-ethanol
C₁₉H₂₀N₂O 73931-96-1



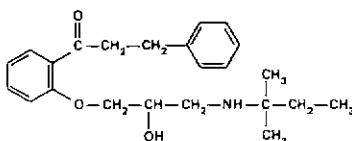
dexlofexidinum
dexlofexidine

(+)-(S)-2-[1-(2,6-dichlorophenoxy)ethyl]-2-imidazoline
C₁₁H₁₂Cl₂N₂O 81447-79-2



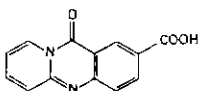
diprafenonum
diprafenone

(±)-2'-[2-hydroxy-3-(*tert*-pentylamino)propoxy]-3-phenylpropiophenone
C₂₃H₃₁NO₃ 81447-80-5



doqualastum
doqualast

11-oxo-11*H*-pyrido[2,1-*b*]quinazoline-2-carboxylic acid
C₁₃H₈N₂O₃ 64019-03-0

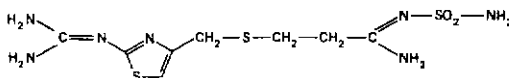


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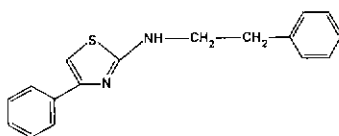
famotidinum
famotidine

[1-amino-3-[[[2-[(diaminomethylene)amino]-4-thiazolyl]methyl]thio]propylidene]-sulfamide
C₉H₁₅N₇O₂S₃ 76824-35-6



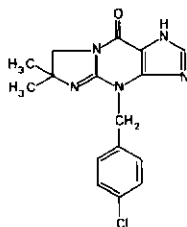
fanetizolum
fanetizole

2-(phenethylamino)-4-phenylthiazole
C₁₇H₁₆N₂S 79069-94-6



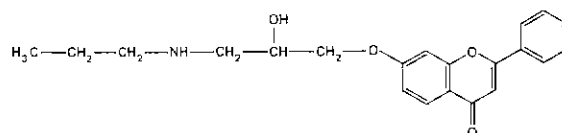
fenprinastum
fenprinast

4-(*p*-chlorobenzyl)-1,4,6,7-tetrahydro-6,6-dimethyl-9*H*-imidazo[1,2-*a*]purin-9-one
C₁₈H₁₆ClN₅O 75184-94-0



flavodilolum
flavodilol

(±)-7-[2-hydroxy-3-(propylamino)propoxy]flavone
C₂₁H₂₃NO₄ 79619-31-1

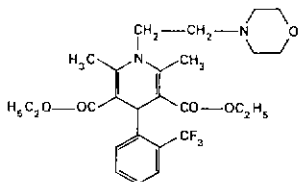


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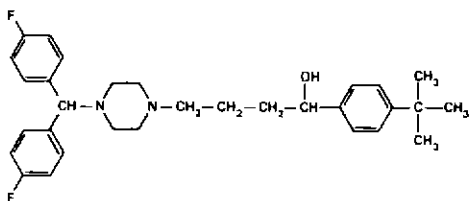
flordipinum
flordipine

diethyl 1,4-dihydro-2,6-dimethyl-1-(2-morpholinoethyl)-4-(α,α,α -trifluoro-*o*-
tolyl)3,5-pyridinedicarboxylate
C₂₅H₃₃F₃N₂O₅ 77590-96-6



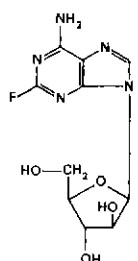
flotrenizimum
flotrenizine

(±)-4-[bis(*p*-fluorophenyl)methyl]- α -(*p*-*tert*-butylphenyl)-1-piperazinebutanol
C₃₁H₃₉F₂N₂O 82190-92-9



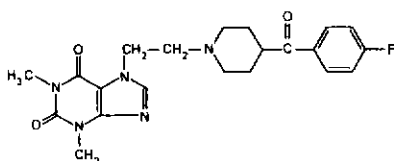
fludarabinum
fludarabine

9- β -D-arabinofuranosyl-2-fluoroadenine
C₁₀H₁₂FN₅O₄ 21679-14-1



flufyllinum
flufylline

7-[2-[4-(*p*-fluorobenzoyl)piperidino]ethyl]theophylline
C₂₁H₂₄FN₅O₃ 82190-91-8

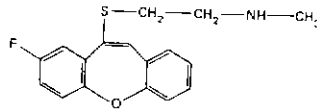


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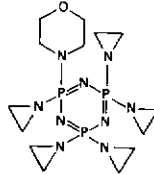
fluradolinum
fluradoline

2-[(8-fluorodibenz[*b,f*]oxepin-10-yl)thio]-*N*-methylethylamine
C₁₇H₁₆FNOS 71316-84-2



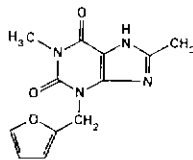
fortetaminum
fortetamine

2,2,4,4,6-pentakis(1-aziridinyl)-2,2,4,4,6,6-hexahydro-6-morpholino-1,3,5,2,4,6-triazatriphosphorine
C₁₄H₂₂N₉OP₃ 37132-72-2



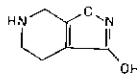
furafyllinum
furafylline

3-furfuryl-1,8-dimethylxanthine
C₁₂H₁₂N₄O₃ 80288-49-9



gaboxadolum
gaboxadol

4,5,6,7-tetrahydroisoxazole[5,4-*c*]pyridin-3-ol
C₅H₆N₂O₂ 64603-91-4

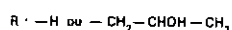
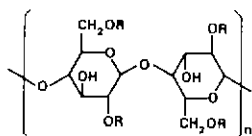


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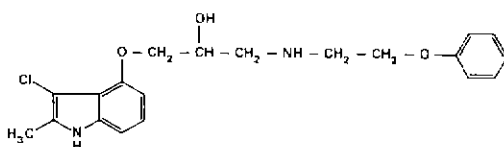
hyprolosum
hyplose

cellulose 2-hydroxypropyl ether
9004-64-2



indopanolum
indopanolum

(±)-1-[(3-chloro-2-methylindol-4-yl)oxy]-3-[(2-phenoxyethyl)amino]-2-propanol
C₂₀H₂₃ClN₂O₃ 69907-17-1

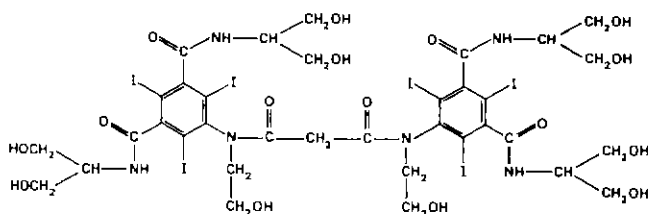


insulinum humanum
insulin human

a protein having the normal structure of the natural antidiabetic principle produced by the human pancreas.
11061-68-0

iodocolum
iodocol

5,5'-[malonylbis[(2-hydroxyethyl)imino]]bis[*N,N'*-bis[2-hydroxy-1-(hydroxymethyl)ethyl]-2,4,6-triiodoisophthalamide]
C₃₅H₄₄I₆N₆O₁₆ 81045-33-2

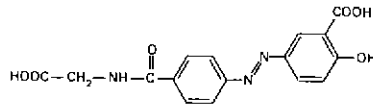


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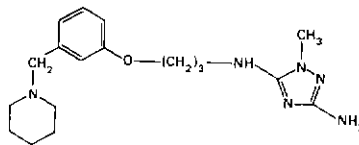
ipsalazidum
ipsalazide

(*E*)-*p*-[(3-carboxy-4-hydroxyphenyl)azo]hippuric acid
C₁₆H₁₃N₃O₆ 80573-03-1



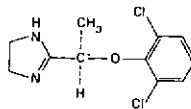
lamtidinum
lamtidine

1-[*m*-[3-[(3-amino-1-methyl-1*H*-1,2,4-triazol-5-yl)amino]propoxy]benzyl]piperidine
C₁₈H₂₈N₆O 73278-54-3



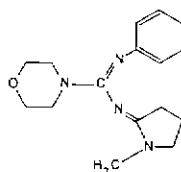
levlofexidinum
levlofexidine

(-)-(*R*)-2-[1-(2,6-dichlorophenoxy)ethyl]-2-imidazoline
C₁₁H₁₂Cl₂N₂O 81447-78-1



linogliiridum
linogliiride

N-(1-methyl-2-pyrrolidinylidene)-*N'*-phenyl-4-morpholinecarboxamidine
C₁₆H₂₂N₄O 75358-37-1

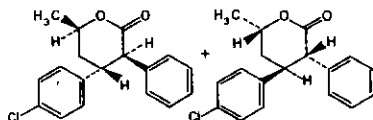


Proposed International
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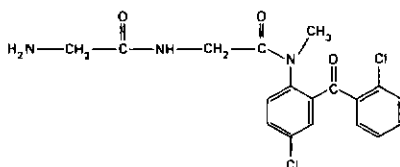
lomevactonum
lomevactone

4-(*p*-chlorophenyl)tetrahydro-6-methyl-3-phenyl-2*H*-pyran-2-one or *p*-chloro- β -(2-hydroxypropyl)- α -phenylhydrocinnamic acid, δ -lactone
C₁₈H₁₇ClO₂ 81478-25-3



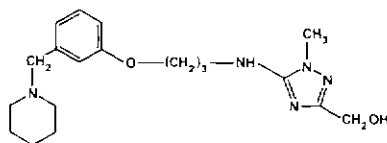
lorzafonum
lorzafone

2-(2-aminoacetamido)-4'-chloro-2'-(*o*-chlorobenzoyl)-*N*-methylacetanilide
C₁₈H₁₇Cl₂N₃O₃ 59179-95-2



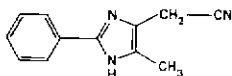
loxtidinum
loxtidine

1-methyl-5-[[3-[(α -piperidino-*m*-tolyl)oxy]propyl]amino]-1*H*-1,2,4-triazole-3-methanol
C₁₉H₂₉N₅O₂ 76956-02-0



mefenidilum
mefenidil

5-methyl-2-phenylimidazole-4-acetonitrile
C₁₂H₁₁N₃ 58261-91-9

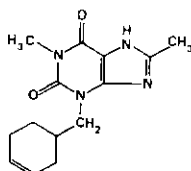


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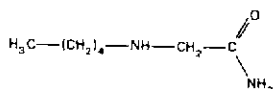
mexafyllinum
mexafylline

3-(3-cyclohexen-1-ylmethyl)-1,8-dimethylxanthine
C₁₄H₁₈N₄O₂ 80294-25-3



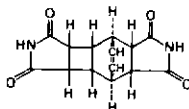
milacemidum
milacemide

2-(pentylamino)acetamide
C₇H₁₆N₂O 76990-56-2



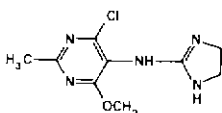
mitindomidum
mitindomide

tricyclo[4.2.2.0^{2,5}]dec-9-ene-3,4,7,8-tetracarboxylic 3,4,7,8-diimide
C₁₄H₁₂N₂O₄ 10403-51-7



moxonidinum
moxonidine

4-chloro-5-(2-imidazolin-2-ylamino)-6-methoxy-2-methylpyrimidine
C₉H₁₂ClN₅O 75438-57-2

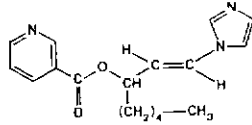


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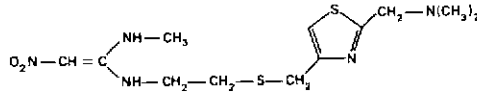
nicogrelatum
nicogrelate

(±)-(E)-3-imidazol-1-yl-1-pentylallyl nicotinate
C₁₇H₂₁N₃O₂ 80614-21-7



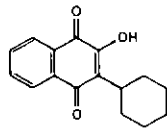
nizatidinum
nizatidine

N-[2-[[[2-[(dimethylamino)methyl]-4-thiazolyl]methyl]thio]ethyl]-N'-methyl-2-nitro-1,1-ethenediamine
C₁₂H₂₁N₅O₂S₂ 76963-41-2



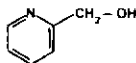
parvaquonum
parvaquone

2-cyclohexyl-3-hydroxy-1,4-naphthoquinone
C₁₈H₁₆O₃ 4042-30-2



piconolum
piconol

2-pyridinemethanol
C₆H₇NO 586-98-1

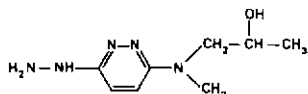


Proposed International
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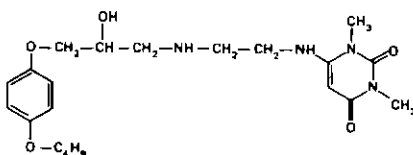
pildralazinum
pildralazine

(±)-1-[(6-hydrazino-3-pyridazinyl)methylamino]-2-propanol
C₈H₁₅N₅O 64000-73-3



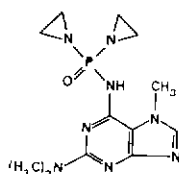
pirepololum
pirepolol

(±)-6-[[2-[[3-(*p*-butoxyphenoxy)-2-hydroxypropyl]amino]ethyl]amino]-1,3-dimethyluracil
C₂₁H₃₂N₄O₅ 69479-26-1



pumitepum
pumitepa

P,P-bis(1-aziridinyl)-*N*-[2-(dimethylamino)-7-methylpurin-6-yl]phosphinic amide
C₁₂H₁₉N₈OP 42061-52-9

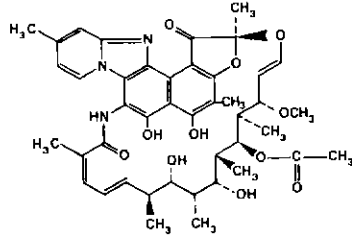


Proposed International
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Chemical Name or Description, Molecular and Graphic Formulae
Chemical Abstracts Service (CAS) registry number

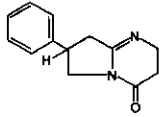
rifaxidinum
rifaxidin

(2*S*,16*Z*,18*E*,20*S*,21*S*,22*R*,23*R*,24*R*,25*S*,26*S*,27*S*,28*E*)-5,6,21,23,25-pentahydroxy-27-methoxy-2,4,11,16,20,22,24,26-octamethyl-2,7-(epoxypentadeca[1,11,13]trien-imino)benzofuro[4,5-*e*]pyrido[1,2-*a*]benzimidazole-1,15(2*H*)-dione, 25-acetate
 $C_{43}H_{51}N_3O_{11}$ 80621-81-4



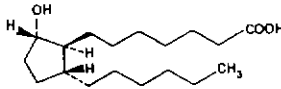
rofelodinum
rofelodine

(±)-2,6,7,8-tetrahydro-7-phenylpyrrolo[1,2-*a*]pyrimidin-4(3*H*)-one
 $C_{13}H_{14}N_2O$ 76696-97-4



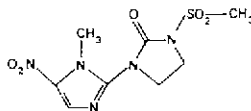
rosaprostolum
saprostol

2-hexyl-5-hydroxycyclopentaneheptanoic acid
 $C_{17}H_{34}O_3$ 56695-65-9



satranidazolium
satranidazole

1-(1-methyl-5-nitroimidazol-2-yl)-3-(methylsulfonyl)-2-imidazolidinone
 $C_8H_{11}N_5O_2S$ 56302-13-7

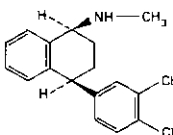


Proposed International
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Chemical Name or Description, Molecular and Graphic Formulae
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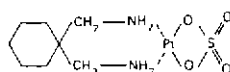
sertralinum
sertraline

(1*S*,4*S*)-4-(3,4-dichlorophenyl)-1,2,3,4-tetrahydro-*N*-methyl-1-naphthylamine
C₁₇H₁₇Cl₂N 79617-96-2



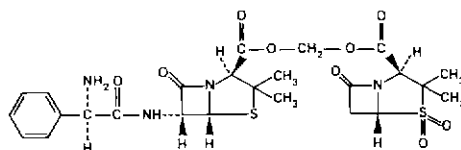
spiroplatinum
spiroplatin

cis-[1,1-cyclohexanebis(methylamine)](sulfato)platinum
C₈H₁₈N₂O₄PtS 74790-08-2



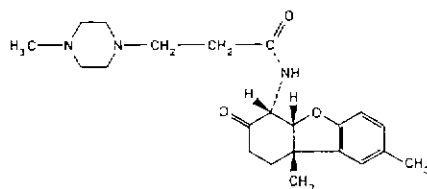
sultamicillinum
sultamicillin

hydroxymethyl (2*S*,5*R*,6*R*)-6-[(*R*)-(2-amino-2-phenylacetamido)]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate, (2*S*,5*R*)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate (ester), *S,S*-dioxide
C₂₅H₃₀N₄O₉S₂ 76497-13-7



taziprinonum
taziprinone

(±)-*N*-[(4*R**,4*aR**,9*bS**)-1,2,3,4,4*a*,9*b*-hexahydro-8,9*b*-dimethyl-3-oxo-4-diben-zofuranyl]-4-methyl-1-piperazinepropionamide
C₂₂H₃₁N₃O₃ 79253-92-2

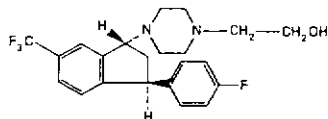


Proposed International
Nonproprietary Name (Latin, English)

Chemical Name or Description, Molecular and Graphic Formulae
Chemical Abstracts Service (CAS) registry number

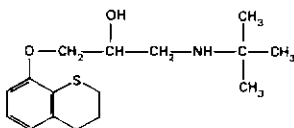
tefludazinum
tefludazine

trans-4-[3-(*p*-fluorophenyl)-6-(trifluoromethyl)-1-indanyl]-1-piperazineethanol
C₂₂H₂₄F₄N₂O 80680-06-4



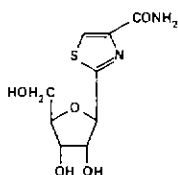
tertatololum
tertatolol

(±)-1-(*tert*-butylamino)-3-(thiochroman-8-yloxy)-2-propanol
C₁₆H₂₅NO₂S 34784-64-0



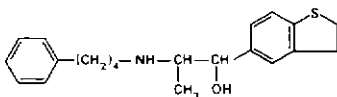
tiazofurinum
tiazofurine

2-β-D-ribofuranosyl-4-thiazolecarboxamide
C₈H₁₂N₂O₅S 60084-10-8



tibalosinum
tibalosin

(±)-*erythro*-2,3-dihydro-α-[1-[(4-phenylbutyl)amino]ethyl]benzo[*b*]thiophene-5-methanol
C₂₁H₂₇NOS 63996-84-9

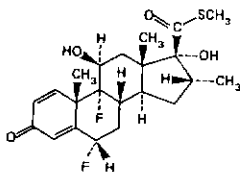


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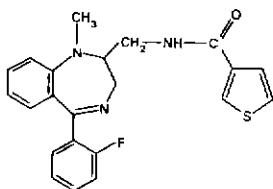
ticabesonum
ticabesone

S-methyl 6 α ,9-difluoro-11 β ,17-dihydroxy-16 α -methyl-3-oxoandrosta-1,4-diene-17 β -carbothioate
C₂₂H₂₈F₂O₄S 74131-77-4



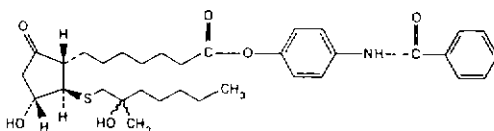
trfluadomum
trfluadom

(±)-N-[[5-(*o*-fluorophenyl)-2,3-dihydro-1-methyl-1*H*-1,4-benzodiazepin-2-yl]methyl]-3-thiophenecarboxamide
C₂₂H₂₀FN₃OS 81656-30-6



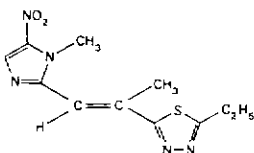
tiprostanidum
tiprostanide

(1*S*,2*R*,3*R*)-3-hydroxy-2-[[2-hydroxy-2-methylheptyl]thio]-5-oxocyclopentane-heptanoic acid, ester with 4'-hydroxybenzanilide or *p*-benzamidophenyl
(1*S*,2*R*,3*R*)-3-hydroxy-2-[[2-hydroxy-2-methylheptyl]thio]-5-oxocyclopentane-heptanoate
C₃₃H₄₅NO₆S 67040-53-3



tivanidazolium
tivanidazole

(*E*)-2-ethyl-5-[1-methyl-2-(1-methyl-5-nitroimidazol-2-yl)vinyl]-1,3,4-thiadiazole
C₁₁H₁₃N₅O₂S 80680-05-3

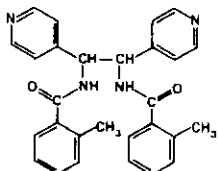


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Chemical Name or Description, Molecular and Graphic Formulae
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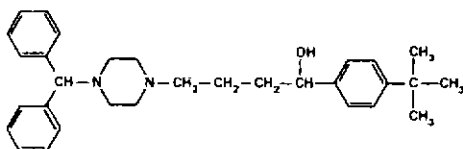
tolpadiolum
tolpadol

N,N'-(1,2-di-4-pyridylethylene)bis[*o*-toluamide]
C₂₅H₂₆N₄O₂ 77502-27-3



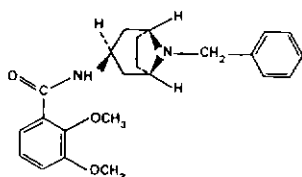
trenizinum
trenizine

(±)- α -(*p*-*tert*-butylphenyl)-4-(diphenylmethyl)-1-piperazinebutanol
C₃₁H₄₀N₂O 82190-93-0



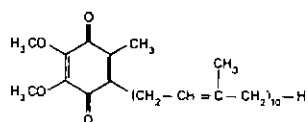
tropapridum
tropapride

N-(8-benzyl-1 α H,5 α H-nortropan-3 β -yl)-*o*-veratramide
C₂₃H₂₄N₂O₃ 76352-13-1



ubidecarenonum
ubidecarenone

2-(3,7,11,15,19,23,27,31,35,39-decamethyl-2,6,10,14,18,22,26,30,34,38-tetracontadecaenyl)-5,6-dimethoxy-3-methyl-*p*-benzoquinone
C₅₈H₉₀O₄ 303-98-0

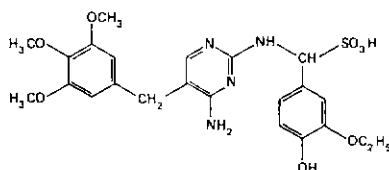


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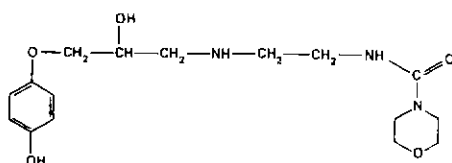
vanepriumum
vaneprim

(±)-α-[[4-amino-5-(3,4,5-trimethoxybenzyl)-2-pyrimidinyl]amino]-3-ethoxy-4-hydroxy-α-toluenesulfonic acid
C₂₃H₂₈N₄O₈S 81523-49-1



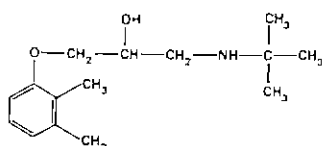
xamoterolum
xamoterol

(±)-N-[2-[[2-hydroxy-3-(p-hydroxyphenoxy)propyl]amino]ethyl]-4-morpholine-carboxamide
C₁₆H₂₅N₃O₅ 81801-12-9



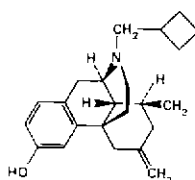
xibenololum
xibenolol

(±)-1-(tert-butylamino)-3-(2,3-xilyloxy)-2-propanol
C₁₅H₂₅NO₂ 81584-06-7



xorphanolum
xorphanol

17-(cyclobutylmethyl)-8β-methyl-6-methylenemorphinan-3-ol
C₂₃H₃₁NO 77287-89-9

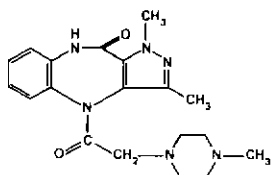


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zolenzepinum
zolenzepine

4,9-dihydro-1,3-dimethyl-4-[(4-methyl-1-piperazinyl)acetyl]pyrazolo[4,3-
b][1,5]benzodiazepin-10(1H)-one
C₁₉H₂₄N₆O₂ 78208-13-6



Names for Radicals and Groups

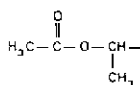
Some substances for which a proposed international nonproprietary name has been established may be used in the form of salts or esters. The radicals or groups involved may be of

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.

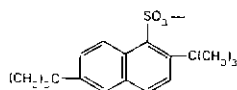
axetilum
axetil

1-acetoxyethyl
C₄H₇O₂



dibunatum
dibunate

2,6-di-*tert*-butyl-1-naphthalenesulfonate
C₁₈H₂₃O₃S



AMENDMENTS TO PREVIOUS LISTS

Cumulative List No. 3, 1971

International Nonproprietary Names for Pharmaceutical substances:

p 136 urokinasum
urokinase *replace definition by: a plasminogen activator isolated from human sources*

Vol. 30, No. 9

International Nonproprietary Names (Prop. INN): List 36

p. 23 *delete*
zimelidinum
zimelidine

insert
zimeldinum
zimeldine

Supplement to Vol. 33, No. 9

International Nonproprietary Names (Prop. INN): List 42

p. 7 *delete*
demetacinum
demetacin

insert
delmetacinum
delmetacin

Supplement to Vol. 34, No. 9

International Nonproprietary Names (Prop. INN): List 44

p. 7 cefotetanum
cefotetan *replace chemical name by: (6R,7S)-4-[[2-carboxy-7-methoxy-3-[[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-7-yl]carbamoyl]-1,3-dithietane- $\Delta^{2,\alpha}$ -malonic acid*

Supplement to Vol. 35, No. 3

International Nonproprietary Names (Prop. INN): List 45

p. 10 *delete*
pentamustinum
pentamustine



insert
neptamustinum
neptamustine

Supplement to Vol. 35, No. 5

International Nonproprietary Names (Prop. INN): List 46

p. 5 *delete*
cilprostom
cilprost

insert
iloprostum
iloprost

p. 6 desocriptinum
desocriptine *in left part of graphic formula replace*  *by* 

p 10 fosenazidum
fosenazide *in graphic formula replace P-O-CH₂ by P-CH₂
(This cancels amendment published on p. 16 of List 47 Prop. INN)*

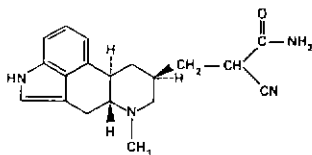
p 15	<i>delete</i> probicromilum probicromil	<i>insert</i> ambicromilum ambicromil
p 16	<i>delete</i> ricainidum ricainide	<i>insert</i> indecainidum indecainide
	<i>delete</i> ridaflonum ridaflone	<i>insert</i> ridiflonum ridiflone

Supplement to Vol. 36, No. 2

International Nonproprietary Names (Prop. INN): List 47

p. 3
delete
cianergolinum
cianergoline

replace graphic formula by:



p. 7
falipamilum
falipamil

replace CAS reg. no by 77862-92-1

p. 11
delete
moxifadolum
moxifadol

p 13
delete
pidorubicinum
pidorubicin

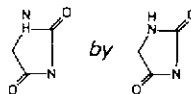
insert
epirubicinum
epirubicin

pirlimycinum
pirlimycin

in the graphic formula complete the N of the piperidine cycle with an H

p. 14
delete
spiomustinum
spiomustine

in graphic formula replace



by

delete
tecoplaninum
tecoplanin

insert
teicoplaninum
teicoplanin

Annex 1

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*.¹

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*.¹

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. Wild Hlth Org.* 1955, 60, 3) and amended by the Board in resolution EB43.R9 (*Off. Rec. Wild 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. International Nonproprietary Names (INN) should be distinctive in sound and spelling. They should not be inconveniently long and should not be liable to confusion with names in common use.

2. The INN 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.

These primary principles are to be implemented by using the following secondary principles

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

4. In devising INN 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".

5. INN 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.

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

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

7. To facilitate the translation and pronunciation of INN, "f" should be

used instead of "ph", "t" instead of "th", "e" instead of "ae" or "oe", and "i" instead of "y", the use of the letters "h" and "k" should be avoided

8. 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.

9 Group relationship in INN (see Guiding Principle 2) should if possible be shown by using a stem from the following list. The stem should only be used for substances of the appropriate group. Where a stem is shown without any hyphens it may be used anywhere in the name.

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

<i>Latin</i>	<i>English</i>	<i>French</i>	
-actidum	-actide	-actide	synthetic polypeptides with a corticotrophin-like action
andr	andr	andr	steroids, androgens
-arolum	-arol	-arol	anticoagulants of the dicoumarol group
-azepamum	-azepam	-azéпам	substances of the diazepam group
-bactamum	-bactam	-bactame	β -lactamase inhibitors
bol	bol	bol	steroids, anabolic
-buzonium	-buzone	-buzone	anti-inflammatory analgesics of the phenylbutazone group
-cainum	-caine	-caïne	local anaesthetics
cef-	cef-	céf-	antibiotics, derivatives of cephalosporanic acid
-cillinum	-cillin	-cilline	antibiotics, derivatives of 6-aminopenicillanic acid
cort	cort	cort	corticosteroids, except those of the prednisolone group
-cyclinum	-cycline	-cycline	antibiotics of the tetracycline group
estr	estr	estr	estrogenic substances
-fibratum	-fibrate	-fibrate	substances of the clofibrate group
-forminum	-formin	-formine	hypoglycemics of the phenformin group
gest	gest	gest	steroids, progestogens
gli-	gli-	gli-	sulfonamide hypoglycemics
io-	io-	io-	iodine-containing contrast media
-ium	-ium	-ium	quaternary ammonium compounds
-metacinum	-metacin	-métacine	anti-inflammatory substances of the indometacin group
-mycinum	-mycin	-mycine	antibiotics, produced by <i>Streptomyces</i> strains
-nidazolium	-nidazole	-nidazole	antiprotozoal substances of the metronidazole group
-ololum	-olol	-olol	β -adrenergic blocking agents of the propranolol group
-onidium	-onide	-onide	steroids for tropical use, containing an acetal group
-orexum	-orex	-orex	anorexigenic agents, phenethylamine derivatives
-praminum	-pramine	-pramine	substances of the imipramine group
-profenum	-profen	-profène	anti-inflammatory substances of the ibuprofen group
prost	prost	prost	prostaglandins
-relinum	-relin	-réline	hypophyseal hormone release-stimulating peptides
sulfa-	sulfa-	sulfa-	sulfonamides, anti-infective
-olum	-terol	-térol	bronchodilators, phenethylamine derivatives
-inum	-tidine	-tidine	H ₂ -receptor antagonists
-tizidium	-tizide	-tizide	diuretics of the chlorothiazide group
-trexatum	-trexate	-trexate	folic acid antagonists
-verinum	-verine	-vérine	spasmolytics with a papaverine-like action

Annex 2

NONPROPRIETARY NAMES FOR PHARMACEUTICAL SUBSTANCES: TWENTIETH REPORT OF THE WHO EXPERT COMMITTEE

In its twentieth report¹ the WHO Expert Committee on Nonproprietary Names for Pharmaceutical Substances reviewed the general principles for devising, and the procedures for selecting, international nonproprietary names (INN) in the light of developments in pharmaceutical compounds in recent years. The most significant recent change has been the extension to the naming of syn-

thetic chemical substances of the practice previously used for substances originating in or derived from natural products. This practice involves employing a characteristic "stem" indicative of a common property of the members of a group. The reasons for, and the implications of, the change are fully discussed. Also reported is the intention to change the practice with regard to the no-

menclature of individual members of polymeric series.

Other sections of the report concern instructions to be followed by bodies making application for international nonproprietary names, the availability of computer-printed cumulative lists of international nonproprietary names, information supplied by WHO Member States concerning their official use of national or interna-

tional names for pharmaceutical products, and proposals relative to the withdrawal of international nonproprietary names allocated to substances that are no longer in use

The official texts relating to the procedures for selecting, and general guidance for devising, international nonproprietary names are reproduced

in two annexes to the report. Other annexes give examples of international nonproprietary names that incorporate selected stems, the most frequently used initial groups of letters in international nonproprietary names, a historical review of the programme of selecting international nonproprietary names, some useful

literature references, and a model of the form to be used in all applications for international nonproprietary names.

¹WHO Technical Report Series, No 581, 1975 (*Nonproprietary Names for Pharmaceutical Substances* Twentieth Report of the WHO Expert Committee), ISBN 92 4 120581 4 Price. Sw. fr 6.-