

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 44 Prop. INN not later than 31 January 1981.

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.

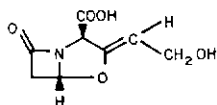
Proposed International Nonproprietary Names (Prop. INN): List 44²

Proposed International
Nonproprietary Name (Latin, English)

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

acidum clavulanicum
clavulanic acid

(Z)-(2*R*,5*R*)-3-(2-hydroxyethylidene)-7-oxo-4-oxa-1-azabicyclo[3.2.0]heptane-2-carboxylic acid
C₈H₉NO₅ 58001-44-8



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 in page 22 of this Supplement (Annex 2). All names from Lists 1-37 of Proposed International Nonproprietary Names, together with a molecular formula, will be found in *International Nonproprietary Names for Pharmaceutical Substances Cumulative list No. 5, 1977*, World Health Organization, Geneva, 1977 (ISBN 92 4 058011 4) (price: Sw fr. 48.-). 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 March 1977. The printout also indicates in which of the 37 individual lists of proposed names and 16 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. 28.

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,

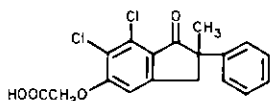
119, 413; 1971, 25, 123, 415, 1972, 26, 121, 414; 1973, 27, 120, 330, 1974, 28, 133; supplements to *WHO Chronicle*, 1974, Vol. 28, No. 9, 1975, Vol. 29, No. 3, No. 9, 1976, Vol. 30, No. 3, No. 9, 1977, Vol. 31, No. 3, No. 9; 1978, Vol. 32, No. 3, No. 9; 1979, Vol. 33, No. 3, No. 9, 1980, Vol. 34, No. 3.

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; 1973, 27, 453; supplements to *WHO Chronicle*, 1974, Vol. 28, No. 10; 1975, Vol. 29, No. 10; 1976, Vol. 30, No. 10; 1977, Vol. 31, No. 10, 1978, Vol. 32, No. 10; 1979, Vol. 33, No. 10.

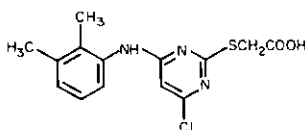
acidum indacrinicum
indacrinic acid

(±)-[(6,7-dichloro-2-methyl-1-oxo-2-phenyl-5-indanyl)oxy]acetic acid
C₁₈H₁₄Cl₂O₄ 57296-63-6



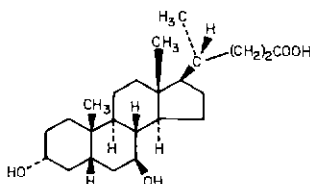
acidum pirinixicum
pirinixic acid

[[4-chloro-6-(2,3-xylidino)-2-pyrimidinyl]thio]acetic acid
C₁₄H₁₄ClN₃O₂S 50892-23-4



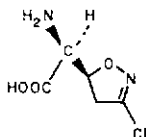
acidum ursodeoxycholicum
ursodeoxycholic acid

3α,7β-dihydroxy-5β-cholan-24-oic acid
C₂₄H₄₀O₄ 128-13-2



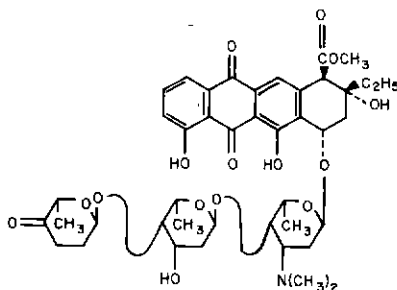
acivicinum
acivicin

(αS,5S)-α-amino-3-chloro-2-isoxazoline-5-acetic acid
C₅H₇ClN₂O₃ 42228-92-2



aclarubicinum
aclarubicin

methyl (1R,2R,4S)-2-ethyl-1,2,3,4,6,11-hexahydro-2,5,7-trihydroxy-6,11-dioxo-4-[[[2,3,6-trideoxy-4-O-[2,6-dideoxy-4-O-[(2R,6S)-tetrahydro-6-methyl-5-oxo-2H-pyran-2-yl]-α-L-lyxo-hexopyranosyl]-3-(dimethylamino)-α-L-lyxo-hexopyranosyl]oxy]-1-naphthacene-carboxylate
C₄₂H₅₃NO₁₅ 57576-44-0



Proposed International
Nonproprietary Name (Latin, English)

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

actagardinum
actagardin

a polypeptide antibiotic obtained from cultures of *Actinoplanes garbadinensis* or *Actinoplanes liguriae*, or the same substance produced by any other means

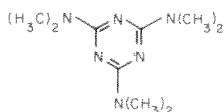
alisactidum
alisactide

1- β -alanine-17-[L-2,6-diamino-*N*-(4-aminobutyl)hexanamide]- α^{1-17} -corticotropin
C₉₉H₁₅₅N₂₉O₂₁S 34765-96-3

H-L- β -Ala-L-Tyr-L-Ser-L-Met-L-Glu-L-His-
L-Phe-L-Arg-L-Trp-Gly-L-Lys-L-Pro-L-Val-
Gly-L-Lys-L-Lys-L-Lys-NH(CH₂)₄NH₂

altretaminum
altretamine

hexamethylmelamine
C₉H₁₈N₆ 645-05-6



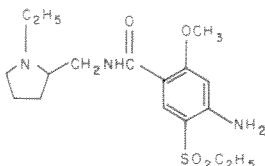
amifostinum
amifostine

S-[2-[(3-aminopropyl)amino]ethyl] dihydrogen phosphorothioate monohydrate
C₅H₁₅N₂O₃PS.H₂O 63717-27-1



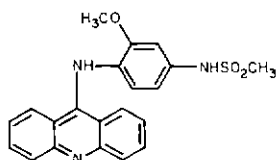
amisulpridum
amisulpride

4-amino-*N*-[(1-ethyl-2-pyrrolidinyl)methyl]-5-(ethylsulfonyl)-*o*-anisamide
C₁₇H₂₇N₃O₄S 71675-85-9



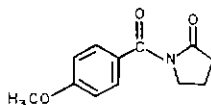
amsacrinum
amsacrine

4'-(9-acridinylamino)methanesulfon-*m*-anisidide
C₂₁H₁₉N₃O₃S 51264-14-3



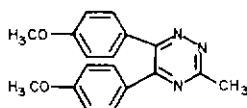
aniracetamum
aniracetam

1-*p*-anisoyl-2-pyrrolidinone
C₁₂H₁₃NO₃ 72432-10-1



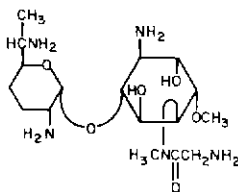
anitrazafenum
anitrazafen

5,6-bis(*p*-methoxyphenyl)-3-methyl-*as*-triazine
C₁₈H₁₇N₃O₂ 63119-27-7



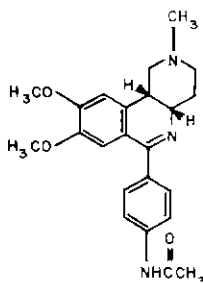
astromicinum
astromicin

4-amino-1-(2-amino-*N*-methylacetamido)-1,4-dideoxy-3-*O*-(2,6-diamino-2,3,4,6,7-pentadeoxy-β-*L*-*xyxo*-heptopyranosyl)-6-*O*-methyl-*L*-*chiro*-inositol
C₁₇H₃₅N₅O₈ 55779-06-1



benafentrinum
benafentrine

cis-4'-(1,2,3,4,4a,10b-hexahydro-8,9-dimethoxy-2-methylbenzo[*c*][1,6]naphthyridin-6-yl)acetanilide
C₂₃H₂₇N₃O₃ 35135-01-4

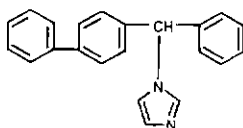


Proposed International
Nonproprietary Name (Latin, English)

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

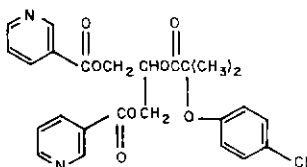
bifonazolum
bifonazole

1-(p,α -diphenylbenzyl)imidazole
 $C_{22}H_{18}N_2$ 60628-96-8



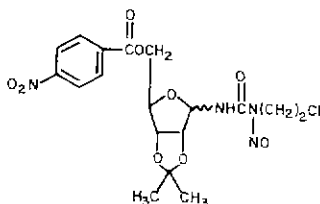
binifibratum
binifibrate

2-(p -chlorophenoxy)-2-methylpropionic acid ester with 1,3-dinicotinoyloxy-2-propanol
 $C_{25}H_{23}ClN_2O_7$ 69047-39-8



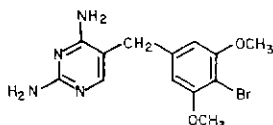
bofumustinum
bofumustine

1-(2-chloroethyl)-3-(2,3- O -isopropylidene- D -ribofuranosyl)-1-nitrosourea 5'-(p -nitrobenzoate)
 $C_{18}H_{21}ClN_4O_9$ 55102-44-8



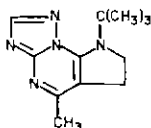
brodimoprimum
brodimoprim

2,4-diamino-5-(4-bromo-3,5-dimethoxybenzyl)pyrimidine
 $C_{13}H_{15}BrN_4O_2$ 56518-41-3



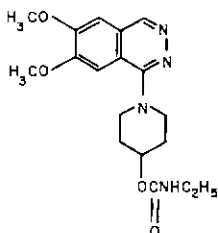
bumepidilum
bumepidil

8- $tert$ -butyl-7,8-dihydro-5-methyl-6 H -pyrrolo[3,2- e]- s -triazolo[1,5- a]pyrimidine
 $C_{12}H_{17}N_5$ 62052-97-5



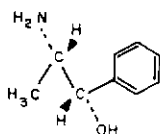
carbazeranum
carbazeran

1-(6,7-dimethoxy-1-phthalazinyl)-4-piperidyl ethylcarbamate
 $C_{18}H_{24}N_4O_4$ 70724-25-3



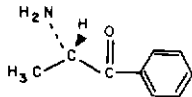
cathinum
cathine

(+)-norpseudoephedrine
 $C_9H_{13}NO$ 492-39-7



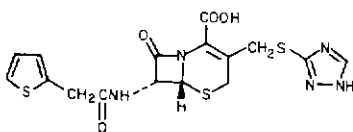
cathinonum
cathinone

(S)-2-aminopropiophenone
 $C_9H_{11}NO$ 71031-15-7



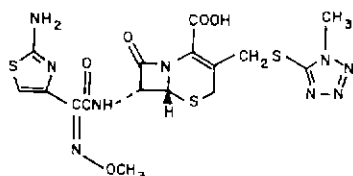
ceftrizolum
ceftrizole

(6R,7R)-8-oxo-7-[2-(2-thienyl)acetamido]-3-[(s-triazol-3-ylthio)methyl]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid
 $C_{16}H_{15}N_5O_4S_3$ 65307-12-2



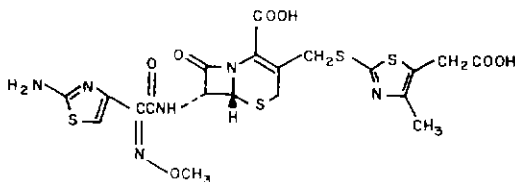
cefmenoximum
cefmenoxime

(6R,7R)-7-[2-(2-amino-4-thiazolyl)glyoxylamido]-3-[[[1-methyl-1H-tetrazol-5-yl]thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid
7Z-(Z)-(O-methyloxime)
 $C_{16}H_{17}N_9O_5S_3$ 65085-01-0



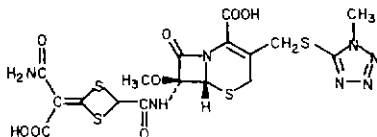
cefodizimum
cefodizime

(6*R*,7*R*)-7-[2-(2-amino-4-thiazolyl)glyoxylamido]-3-[[[5-(carboxymethyl)-4-methyl-2-thiazolyl]thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid 7²-(*Z*)-(O-methyloxime)
C₂₀H₂₀N₆O₇S₄ 69739-16-8



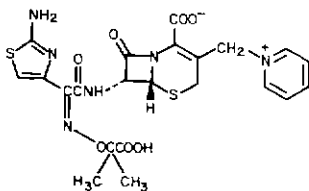
cefotetanum
cefotetan

(6*R*,7*S*)-7-[4-(carbamoylcarboxymethylene)-1,3-dithietane-2-carboxamido]-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
C₁₇H₁₇N₇O₈S₄ 69712-56-7



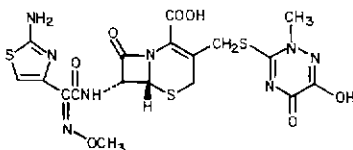
ceftazidimum
ceftazidime

1-[[[(6*R*,7*R*)-7-[2-(2-amino-4-thiazolyl)glyoxylamido]-2-carboxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]methyl]pyridinium hydroxyde, inner salt, 7²-(*Z*)-(O-(1-carboxy-1-methylethyl)oxime)]
C₂₂H₂₂N₆O₇S₂ 72558-82-8



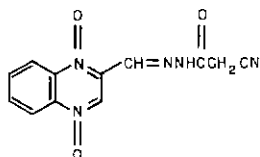
ceftriaxonum
ceftriaxone

(6*R*,7*R*)-7-[2-(2-amino-4-thiazolyl)glyoxylamido]-3-[[[2,5-dihydro-6-hydroxy-2-methyl-5-oxo-*as*-triazin-3-yl]thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid 7²-(*Z*)-(O-methyloxime)
C₁₈H₁₈N₆O₇S₃ 73384-59-5



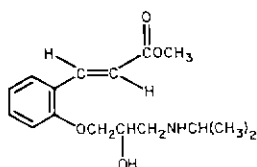
ciadoxum
ciadox

cyanoacetic acid (2-quinoxalinylmethylene)hydrazide, *N*¹,*N*⁴-dioxide
C₁₂H₉N₅O₃ 65884-46-0



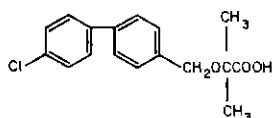
cinamololum
cinamolol

methyl (*E*)-*o*-[2-hydroxy-3-(isopropylamino)propoxy]cinnamate
C₁₆H₂₃NO₄ 39099-98-4



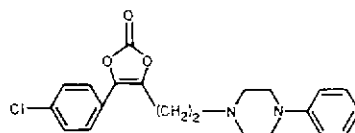
clobuzaritum
clobuzarit

2-[(4'-chloro-4-biphenyl)methoxy]-2-methylpropionic acid
C₁₇H₁₇ClO₃ 22494-47-9



clodoxoponum
clodoxopone

4-(*p*-chlorophenyl)-5-[2-(4-phenyl-1-piperazinyl)ethyl]-1,3-dioxol-2-one
C₂₁H₂₁ClN₂O₃ 71923-34-7

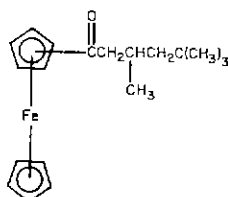


defibrotidum
defibrotide

polydeoxyribonucleotides of bovine lung; molecular weights ranging between
45.000 and 55.000

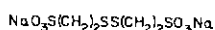
diciferronium
diciferron

(3,5,5-trimethylhexanoyl)ferrocene
 $C_{19}H_{26}FeO$ 65606-61-3



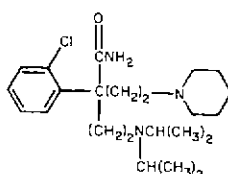
mesnum
mesna

disodium 2,2'-dithiodiethanesulfonate
 $C_4H_8Na_2O_6S_4$ 16208-51-8



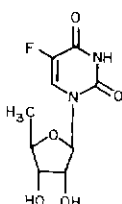
disobutamidium
disobutamide

α -(*o*-chlorophenyl)- α -[2-(diisopropylamino)ethyl]-1-piperidinebutyramide
 $C_{23}H_{38}ClN_3O$ 68284-69-5



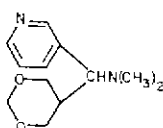
doxifluridinum
doxifluridine

5'-deoxy-5-fluorouridine
 $C_9H_{11}FN_2O_5$ 3094-09-5



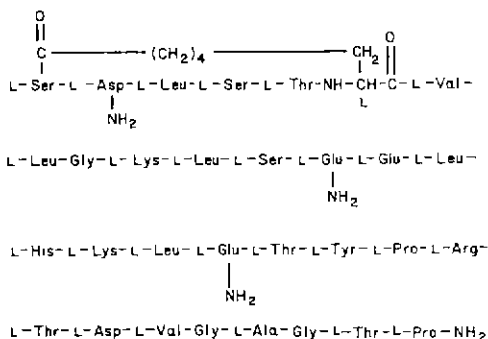
doxpicominum
doxpicomine

(-)-3-[(dimethylamino)-*m*-dioxan-5-ylmethyl]pyridine
 $C_{12}H_{14}N_2O_2$ 62904-71-6



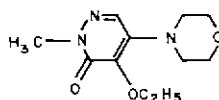
elcatoninum
elcatonin

1-butyric acid-7-(L-2-aminobutyric acid)-26-L-aspartic acid-27-L-valine-29-L-alaninecalcitonin (salmon)
 $C_{148}H_{244}N_{42}O_{47}$ 60731-46-6



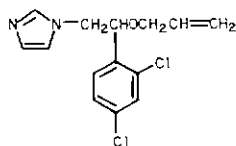
emorfazonom
emorfazono

4-ethoxy-2-methyl-5-morpholino-3(2H)-pyridazinone
 $C_{11}H_{17}N_3O_3$ 38957-41-4



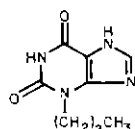
enilconazolom
enilconazole

(±)-1-[β-(allyloxy)-2,4-dichlorophenetyl]imidazole
 $C_{14}H_{14}Cl_2N_2O$ 73790-28-0



enprofyllinum
enprofylline

3-propylxanthine
 $C_8H_{10}N_4O_2$ 41078-02-8

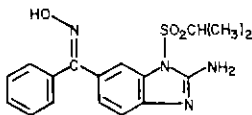


Proposed International
Nonproprietary Name (Latin, English)

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

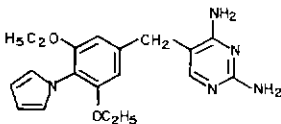
enviroximum
enviroxime

(*E*)-2-amino-6-benzoyl-1-(isopropylsulfonyl)benzimidazole oxime
C₁₇H₁₈N₄O₃S 72301-79-2



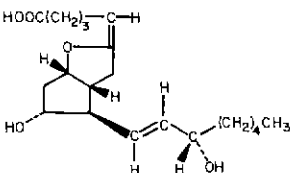
epioproprim
epioproprim

2,4-diamino-5-(3,5-diethoxy-4-pyrrol-1-ylbenzyl)pyrimidine
C₁₉H₂₃N₅O₂ 73090-70-7



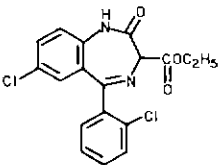
epoprostenolum
epoprostenol

(*Z*)-(3*aR*,4*R*,5*R*,6*aS*)-hexahydro-5-hydroxy-4-[(*E*)-(3*S*)-3-hydroxy-1-octenyl]-2*H*-cyclopenta[*b*]furan-Δ^{2,δ}-valeric acid
C₂₀H₃₂O₅ 35121-78-9



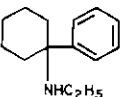
thylis dirazepas
thyl dirazepate

ethyl 7-chloro-5-(*o*-chlorophenyl)-2,3-dihydro-2-oxo-1*H*-1,4-benzodiazepine-3-carboxylate
C₁₈H₁₄Cl₂N₂O₃ 23980-14-5



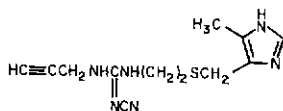
eticyclidinum
eticyclidine

N-ethyl-1-phenylcyclohexylamine
C₁₄H₂₁N 2201-15-2



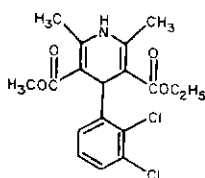
etintidinum
etintidine

2-cyano-1-[2-[[[5-methylimidazol-4-yl)methyl]thio]ethyl]-3-(2-propynyl)guanidine
 $C_{12}H_{11}N_5S$ 69539-53-3



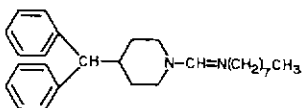
felodipinum
felodipine

ethyl methyl 4-(2,3-dichlorophenyl)-1,4-dihydro-2,6-dimethyl-3,5-pyridinedicarboxylate
 $C_{19}H_{19}Cl_2NO_4$ 72509-76-3



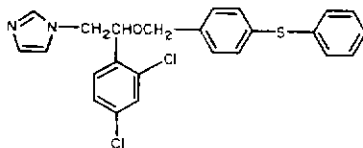
fenoctiminum
fenoctimine

4-(diphenylmethyl)-1-(N-octylformimidoyl)piperidine
 $C_{27}H_{34}N_2$ 69365-65-7



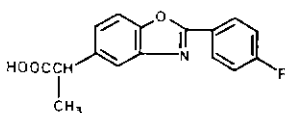
fenticonazolum
fenticonazole

1-[2,4-dichloro-β-[[p-(phenylthio)benzyl]oxy]phenethyl]imidazole
 $C_{24}H_{20}Cl_2N_2OS$ 72479-26-6



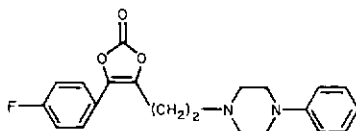
flunoxaprofenum
flunoxaprofen

(+)-2-(p-fluorophenyl)-α-methyl-5-benzoxazoleacetic acid
 $C_{16}H_{12}FNO_3$ 66934-18-7



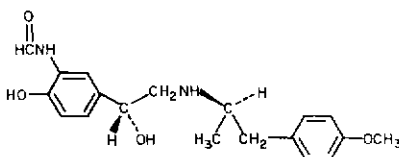
fludoxoponum
fludoxopone

4-(*p*-fluorophenyl)-5-[2-(4-phenyl-1-piperazinyl)ethyl]-1,3-dioxol-2-one
C₂₁H₂₁FN₂O₃ 71923-29-0



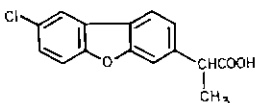
formoterolum
formoterol

(±)-2'-hydroxy-5'-[[(*RS*)-1-hydroxy-2-[[[(*RS*)-*p*-methoxy- α -methylphen-ethyl]amino]ethyl]formanilide
C₁₉H₂₄N₂O₄ 73573-87-2



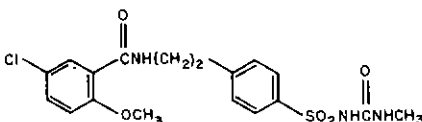
furclopofenum
furclopofen

(+)-8-chloro- α -methyl-3-dibenzofuranacetic acid
C₁₅H₁₁ClO₃ 58012-63-8



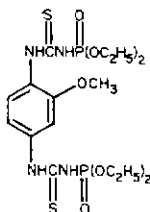
glicondamidum
glicondamide

1-[[*p*-[2-(5-chloro-*o*-anisamido)ethyl]phenyl]sulfonyl]-3-methylurea
C₁₈H₂₀ClN₃O₅S 52994-25-9

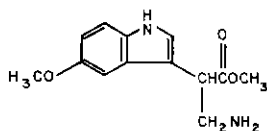


imcarbofosum
imcarbofos

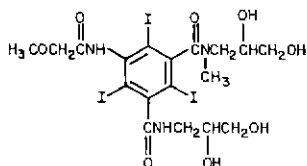
tetraethyl [(2-methoxy-*p*-phenylene)bis[imino(thiocarbonyl)]]diphosphorami-
date
C₁₇H₃₀N₄O₇P₂S₂ 66608-32-0



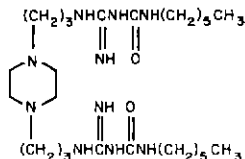
methyl (\pm)- α -(aminomethyl)-5-methoxyindole-3-acetate
C₁₃H₁₆N₂O₃ 73758-06-2



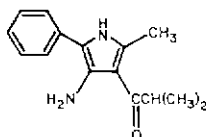
N,N'-bis[2,3-dihydroxypropyl]-2,4,6-triiodo-5-(2-methoxyacetamido)-*N*-methylisophthalamide
C₁₉H₂₄I₃N₃O₈ 73334-07-3



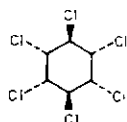
1,1'-[1,4-piperazinediylbis(trimethyleneiminoimidocarbonyl)]bis[3-hexylurea]
C₂₈H₅₄N₁₀O₂ 69017-89-6



1-(4-amino-2-methyl-5-phenylpyrrol-3-yl)-2-methyl-1-propanone
C₁₅H₁₉N₂O 56463-68-4

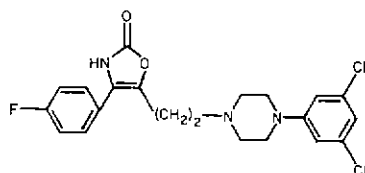


γ -1,2,3,4,5,6-hexachlorocyclohexane
C₆H₅Cl₅ 58-89-9



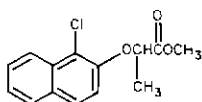
Iodiperonum
Iodiperone

5-[2-[4-(3,5-dichlorophenyl)-1-piperazinyl]ethyl]-4-(*p*-fluorophenyl)-4-oxazolin-2-one
 $C_{21}H_{20}Cl_2FN_3O_2$ 72444-63-4



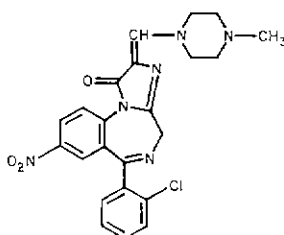
Ionapropenum
Ioprofen

methyl 2-[(1-chloro-2-naphthyl)oxy]propionate
 $C_{14}H_{13}ClO_3$ 41791-49-5



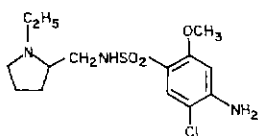
Ioprazolamum
Ioprazolam

6-(*o*-chlorophenyl)-2,4-dihydro-2-[(4-methyl-1-piperazinyl)methylene]-8-nitro-1*H*-imidazo[1,2-*a*][1,4]benzodiazepin-1-one
 $C_{23}H_{21}ClN_5O_3$ 61197-73-7



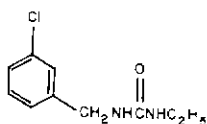
Iorapidum
Iorapride

5-chloro-*N*¹-[(1-ethyl-2-pyrrolidinyl)methyl]-2-methoxysulfanilamide
 $C_{14}H_{22}ClN_3O_3S$ 68677-06-5



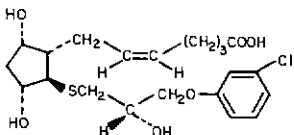
Iozilurea
Iozilurea

1-(*m*-chlorobenzyl)-3-ethylurea
 $C_{10}H_{13}ClN_2O$ 71475-35-9



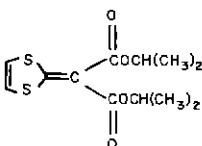
luprostiolum
luprostiol

(±)-(Z)-7-[[[(1*R**,2*S**,3*S**,5*R**)-2-[[[(2*R**)-3-(*m*-chlorophenoxy)-2-hydroxypropyl]thio]-3,5-dihydroxycyclopentyl]-5-heptenoic acid
C₂₁H₂₉ClO₆S 67110-79-6



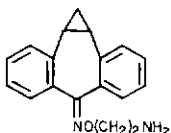
malotilatum
malotilate

diisopropyl 1,3-dithiole-Δ^{2,α}-malonate
C₁₂H₁₆O₄S₂ 59937-28-9



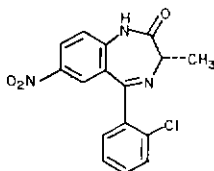
mariptilinum
mariptiline

1a,10b-dihydrodibenzo[*a,e*]cyclopropano[*c*]cyclohepten-6(1*H*)-one *O*-(2-aminoethyl)oxime
C₁₆H₁₆N₂O 60070-14-6



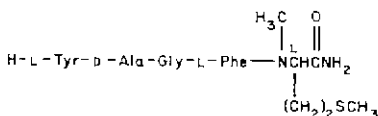
meclonazepamum
meclonazepam

(+)-[*S*]-5-(*o*-chlorophenyl)-1,3-dihydro-3-methyl-7-nitro-2*H*-1,4-benzodiazepin-2-one
C₁₆H₁₂ClN₃O₃ 58662-84-3



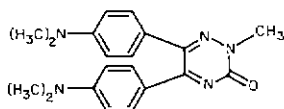
metkefamidum
metkefamide

L-tyrosyl-D-alanylglycyl-L-phenylalanyl-N²-methyl-L-methioninamide
C₂₉H₄₀N₆O₆S 66960-34-7



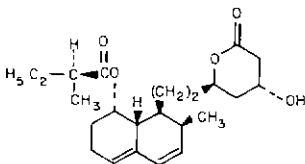
metrazifonum
metrazifone

5,6-bis[*p*-(dimethylamino)phenyl]-2-methyl-*as*-triazin-3(2*H*)-one
C₂₀H₂₃N₅O 68289-14-5



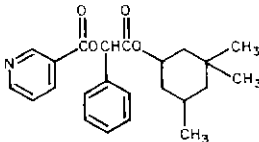
mevastatinum
mevastatin

(1*S*,7*S*,8*S*,8*aR*)-1,2,3,7,8,8*a*-hexahydro-7-methyl-8-[2-[(2*R*,4*R*)-tetrahydro-4-hydroxy-6-oxo-2*H*-pyran-2-yl]ethyl]-1-naphthyl (*S*)-2-methylbutyrate
C₂₉H₃₄O₅ 73573-88-3



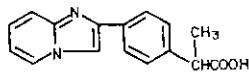
micinacatum
micinicate

nicotinic acid, ester with *cis*-3,3,5-trimethylcyclohexyl (±)-mandelate
C₂₃H₂₇NO₄ 39537-99-0



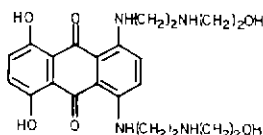
miroprofenum
miroprofen

p-imidazo[1,2-*a*]pyridin-2-ylhydratropic acid
C₁₆H₁₄N₂O₂ 55843-86-2



mitoxantronum
mitoxantrone

1,4-dihydroxy-5,8-bis[2-[(2-hydroxyethyl)amino]ethyl]amino]anthraquinone
C₂₂H₂₈N₄O₆ 65271-80-9

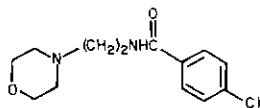


Proposed International
Nonproprietary Name (Latin, English)

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

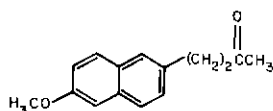
moclobemidum
moclobemide

p-chloro-*N*-(2-morpholinoethyl)benzamide
 $C_{13}H_{17}ClN_2O_2$ 71320-77-9



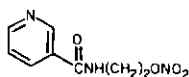
nabumetonum
nabumetone

4-(6-methoxy-2-naphthyl)-2-butanone
 $C_{15}H_{16}O_2$ 42924-53-8



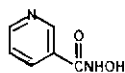
nicorandilum
nicorandil

N-(2-hydroxyethyl)nicotinamide nitrate (ester)
 $C_8H_9N_3O_4$ 65141-46-0



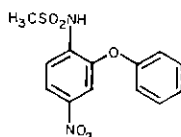
nicoxamatum
nicoxamat

nicotinohydroxamic acid
 $C_6H_6N_2O_2$ 5657-61-4



nimesulidum
nimesulide

4'-nitro-2'-phenoxyethanesulfonanilide
 $C_{13}H_{12}N_2O_5S$ 51803-78-2

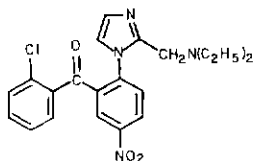


Proposed International
Nonproprietary Name (Latin, English)

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

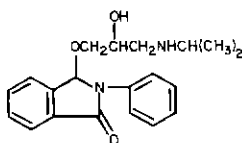
nizofenonum
nizofenone

2'-chloro-2-[2-[(diethylamino)methyl]imidazol-1-yl]-5-nitrobenzophenone
 $C_{21}H_{21}ClN_2O_3$ 54533-85-6



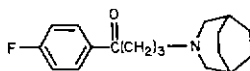
profecainidum
profecainide

3-[2-hydroxy-3-(isopropylamino)propoxy]-2-phenylphthalimidine
 $C_{20}H_{24}N_2O_3$ 50516-43-3



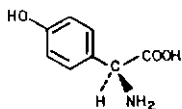
nonaperonum
nonaperone

4-(3-azabicyclo[3.2.2]non-3-yl)-4'-fluorobutyrophenone
 $C_{14}H_{24}FNO$ 15997-76-9



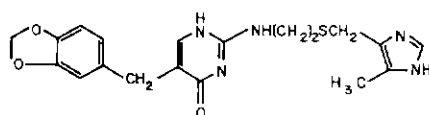
oxafenicinum
oxfenicine

L-2-(p-hydroxyphenyl)glycine
 $C_8H_9NO_3$ 32462-30-9



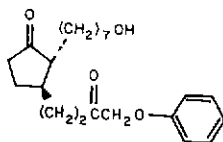
oxmetidinum
oxmetidine

2-[[2-[[[(5-methylimidazol-4-yl)methyl]thio]ethyl]amino]-5-piperonyl-4(1H)-pyrimidinone
 $C_{19}H_{21}N_5O_3S$ 72830-39-8



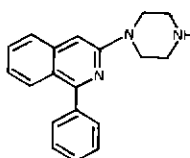
oxoprostolum
oxoprostol

(±)-*trans*-2-(7-hydroxyheptyl)-3-(3-oxo-4-phenoxybutyl)cyclopentanone
C₂₂H₃₂O₄ 69648-40-4



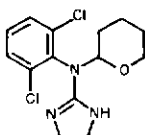
perafensinum
perafensine

1-phenyl-3-(1-piperazinyl)isoquinoline
C₁₉H₁₉N₃ 72444-62-3



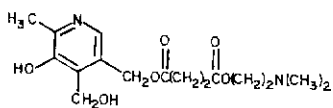
piclonidinum
piclonidine

(±)-2-[2,6-dichloro-*N*-(tetrahydro-2*H*-pyran-2-yl)anilino]-2-imidazoline
C₁₄H₁₇Cl₂N₃O 72467-44-8



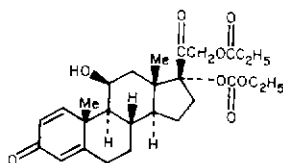
pirisudanolum
pirisudanol

2-(dimethylamino)ethyl [5-hydroxy-4-(hydroxymethyl)-6-methyl-3-pyridyl]methyl succinate
C₁₉H₂₄N₂O₆ 33605-94-6



prednicarbatum
prednicarbate

11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 17-(ethyl carbonate) 21-propionate
C₂₇H₃₆O₈ 73771-04-7

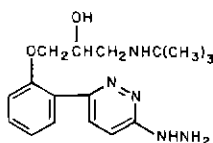


Proposed International
Nonproprietary Name (Latin, English)

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

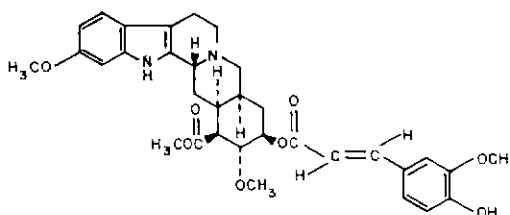
prizidilolum
prizidilol

1-(*tert*-butylamino)-3-[*o*-(6-hydrazino-3-pyridazinyl)phenoxy]-2-propanol
C₁₇H₂₅N₅O₂ 59010-44-5



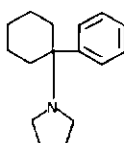
rescimetolum
pimeto

methyl 18 β -hydroxy-11,17 α -dimethoxy-3 β ,20 α -yohimban-16 β -carboxylate
(*E*)-4-hydroxy-3-methoxycinnamate (ester)
C₃₃H₃₈N₂O₈ 73573-42-9



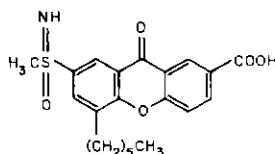
rolcyclidinum
rolcyclidine

1-(1-phenylcyclohexyl)pyrrolidine
C₁₆H₂₃N 2201-39-0



sudexanoxum
sudexanox

S-(7-carboxy-4-hexyl-9-oxoxanthen-2-yl)-*S*-methylsulfoximine
C₂₁H₂₃NO₅S 58761-87-8

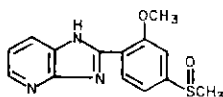


sulbactamum
sulbactam

(2*S*,5*R*)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid
4,4-dioxide
C₈H₁₁NO₅S 68373-14-8

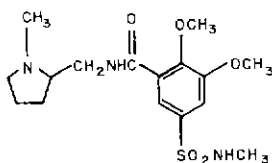
sulmazolum
sulmazole

2-[2-methoxy-4-(methylsulfinyl)phenyl]-1*H*-imidazo[4,5-*b*]pyridine
C₁₄H₁₃N₃O₂S 73384-60-8



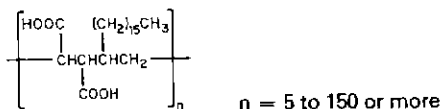
sulverapridum
sulverapride

N-[(1-methyl-2-pyrrolidinyl)methyl]-5-(methylsulfamoyl)-*o*-veratramide
C₁₆H₂₅N₃O₅S 73747-20-3



surfomerum
surfomer

poly(1,2-dicarboxy-3-hexadecyltetramethylene)
(C₂₂H₄₀O₄)_n 71251-04-2

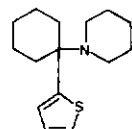


tendamistatum
tendamistat

an α -amylase inhibiting polypeptide obtained from cultures of *Streptomyces tendae*

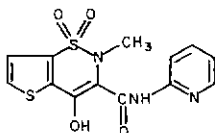
tenocyclidinum
tenocyclidine

1-[1-(2-thienyl)cyclohexyl]piperidine
C₁₅H₂₃NS 21500-98-1



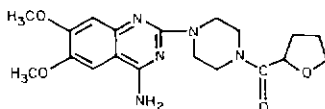
tenoxicamum
tenoxicam

4-hydroxy-2-methyl-*N*-2-pyridyl-2*H*-thieno[2,3-*e*]-1,2-thiazine-3-carboxamide
1,1-dioxide
 $C_{13}H_{11}N_3O_4S_2$ 59804-37-4



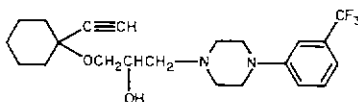
terazosinum
terazosin

1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(tetrahydro-2-furoyl)piperazine
 $C_{19}H_{25}N_5O_4$ 63590-64-7



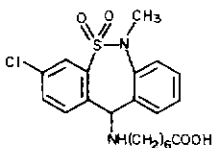
terciprazinum
terciprazine

(±)-α-[[[(1-ethynylcyclohexyl)oxy]methyl]-4-(α,α,α-trifluoro-*m*-tolyl)-1-piperazineethanol
 $C_{22}H_{29}F_3N_2O_2$ 56693-15-3



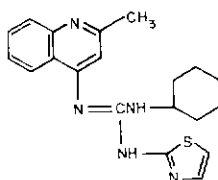
tianeptinum
tianeptine

7-[[[3-chloro-6,11-dihydro-6-methyldibenzo[*c,f*][1,2]thiazepin-11-yl]amino]hepta-
noic acid *S,S*-dioxide
 $C_{21}H_{25}ClN_2O_4S$ 66981-73-5



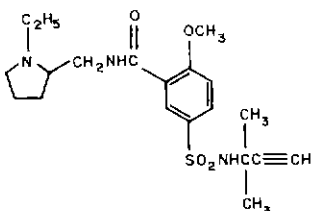
timegadinum
timegadine

1-cyclohexyl-2-(2-methyl-4-quinolyl)-3-(2-thiazolyl)guanidine
 $C_{20}H_{23}N_5S$ 71079-19-1



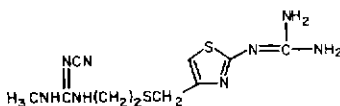
tinisulpridum
tinisulpride

5-[(1,1-dimethyl-2-propynyl)sulfamoyl]-*N*-[(1-ethyl-2-pyrrolidinyl)methyl]-*o*-anisamide
 $C_{20}H_{29}N_3O_4S$ 69387-87-7



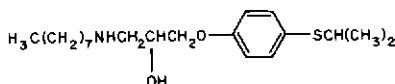
tiotidinum
tiotidine

2-cyano-1-[2-[[[2-[(diaminomethylene)amino]-4-thiazolyl]methyl]thio]ethyl]-3-methylguanidine
 $C_{10}H_{15}N_4S_2$ 69014-14-8



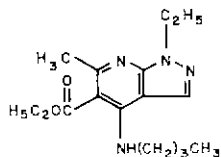
tipropidilum
tipropidil

1-[*p*-(isopropylthio)phenoxy]-3-(octylamino)-2-propanol
 $C_{20}H_{35}NO_2S$ 70895-45-3



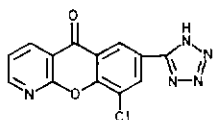
tracazolum
tracazolate

ethyl 4-(butylamino)-1-ethyl-6-methyl-1*H*-pyrazolo[3,4-*b*]pyridine-5-carboxylate
 $C_{16}H_{24}N_4O_2$ 41094-88-6



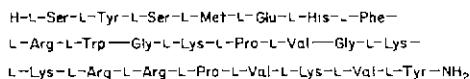
traxanoxum
traxanox

9-chloro-7-(1*H*-tetrazol-5-yl)-5*H*-[1]benzopyrano[2,3-*b*]pyridine-5-one
 $C_{13}H_6ClN_5O_2$ 58712-69-9



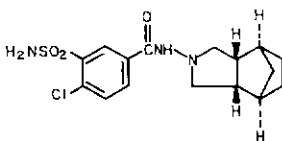
tricosactidum
tricosactide

23-L-tyrosinamide- α^{1-23} -corticotropin
 $C_{131}H_{204}N_{40}O_{29}S$ 20282-58-0



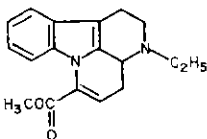
tripamidum
tripamide

4-chloro-*N*-(endo-hexahydro-4,7-methanoisindolin-2-yl)-3-sulfamoylbenzamide
 $C_{16}H_{20}ClN_3O_3S$ 73803-48-2



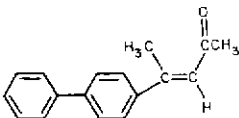
vintenatum
vintenate

(\pm)-methyl 3-ethyl-2,3,3a,4-tetrahydro-1*H*-indolo[3,2,1-*de*][1,5]naphthyridine-6-carboxylate
 $C_{18}H_{20}N_2O_2$ 70704-03-9



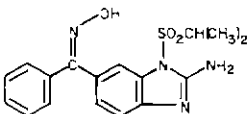
xenipentum
xenipentone

(*E*)-4-(4-biphenyl)-3-penten-2-one
 $C_{17}H_{16}O$ 55845-78-8



zinviroximum
zinviroxime

(*Z*)-2-amino-6-benzoyl-1-(isopropylsulfonyl)benzimidazole oxime
 $C_{17}H_{19}N_4O_3S$ 72301-78-1



Names for Radicals and Groups

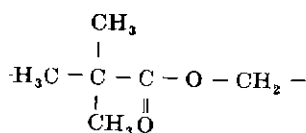
Some substances for which a proposed international nonproprietary name has been established may be used in the form of salts or esters. The radicals or groups involved may be of

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.

(pivaloyloxy)methyl

pivoxil



AMENDMENTS TO PREVIOUS LISTS

Cumulative List No. 5, 1977

International Nonproprietary Names (INN) for Pharmaceutical Substances:

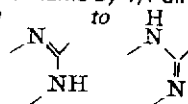
p. 140	<i>delete</i>	<i>insert</i>
	natrii dioctylis sulfosuccinas	docusatum natricum
	sodium dioctyl sulfosuccinate	docusate sodium

Supplement to Vol. 31, No. 9

International Nonproprietary Names (Prop. INN): List 38

p. 14 pirolatum
pirolate

Replace 3,4-dihydro in the chemical name by 1,4-dihydro and move the double bond in the graphic formula from



Supplement to Vol. 32, No. 9

International Nonproprietary Names (Prop. INN): List 40

p. 6	<i>delete</i>	<i>insert</i>
	chenodiolium	acidum chenodeoxycholicum
	chenodiol	chenodeoxycholic acid

Supplement to Vol. 33, No. 3

International Nonproprietary Names (Prop. INN): List 41

p. 4	<i>delete</i>	<i>insert</i>
	crinololum	pacrinololum
	crinolol	pacrinolol
p. 9	<i>delete</i>	<i>insert</i>
	moxifensinum	diclofensinum
	moxifensine	diclofensine

International Nonproprietary Names (Prop. INN): List 43

p 1	aclatonii napadisilas aclatonium napadisilate	<i>Replace $\frac{1}{2}$ in graphic formula by 2</i>
p. 4	<i>delete</i> cianidolum cianidol	<i>insert</i> cianidanolum cianidanol
p 7	<i>delete</i> fibrafyllinum fibrafylline	<i>insert</i> acefyllinum clofibrolum acefylline clofibrol
p 9	ivermectinum ivermectin	<i>Replace $\dots\text{CH}(\text{CH}_2)_3$ in graphic formula by $\dots\text{CH}(\text{CH}_3)_2$</i>
p. 12	<i>delete</i> pepleomycinum pepleomycin	<i>insert</i> peplomycinum peplomycin

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 WHA3.11¹.

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 the World Health Organization 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.

Latin	English	French
-actidum	-actide	-actide
-andr	-andr	-andr
-arolum	-arol	-arol
-azepamum	-azepam	-azéepam
-bol	-bol	-bol
-buzonium	-buzone	-buzone
-cainum	-caine	-caine
-cef-	-cef-	-céf-
-cillinum	-cillin	-cilline
-cort	-cort	-cort
-cyclinum	-cycline	-cycline
-estr	-estr	-estr
-fibratum	-fibrate	-fibrate
-forminum	-formin	-formine
-gest	-gest	-gest
-gli-	-gli-	-gli-
-io-	-io-	-io-
-ium	-ium	-ium
-metacinum	-metacin	-métacine
-mycinum	-mycin	-mycine
-nidazolium	-nidazole	-nidazole
-ololum	-olol	-olol
-onidium	-onide	-onide
-orexum	-orex	-orex
-praminum	-pramine	-pramine
-profenum	-profen	-profène
-prost	-prost	-prost
-relinum	-relin	-rèline
-sulfa-	-sulfa-	-sulfa-
-terolum	-terol	-térol
-tizum	-tizide	-tizide
-verinum	-verine	-vèrine

synthetic polypeptides with a corticotrophin-like action
steroids, androgens
anticoagulants of the dicoumarol group
substances of the diazepam group
steroids, anabolic
anti-inflammatory analgesics of the phenylbutazone group
local anaesthetics
antibiotics, derivatives of cephalosporanic acid
antibiotics, derivatives of 6-aminopenicillanic acid
corticosteroids, except those of the prednisolone group
antibiotics of the tetracycline group
estrogenic substances
substances of the clofibrate group
hypoglycemics of the phenformin group
steroids, progestogens
sulfonamide hypoglycemics
iodine-containing contrast media
quaternary ammonium compounds
anti-inflammatory substances of the indometacin group
antibiotics, produced by *Streptomyces* strains
antiprotozoal substances of the metronidazole group
 β -adrenergic blocking agents of the propranolol group
steroids for topical use, containing an acetal group
anorexigenic agents, phenethylamine derivatives
substances of the imipramine group
anti-inflammatory substances of the ibuprofen group
prostaglandins
hypophyseal hormone release-stimulating peptides
sulfonamides, anti-infective
bronchodilators, phenethylamine derivatives
diuretics of the chlorothiazide group
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 synthetic 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 nomenclature 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 international 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.-