

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 52 Prop. INN not later than 28 February 1985.

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.

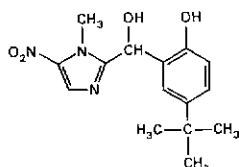
Proposed International Nonproprietary Names (Prop. INN): List 52²

Proposed International
 Nonproprietary Name (Latin, English)

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

abunidazolium
 abunidazole

α -(5-*tert*-butyl-2-hydroxyphenyl)-1-methyl-5-nitroimidazole-2-methanol
 $C_{15}H_{19}N_3O_4$ 91017-58-2



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 (INN) for Pharmaceutical Substances: Cumulative List No. 6, 1982*, World Health Organization, Geneva (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. 25.

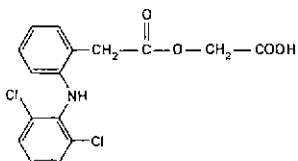
² Other lists of proposed and recommended international nonproprietary names can be found in *Cumulative List No. 6, 1982*.

Proposed International
Nonproprietary Name (Latin, English)

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

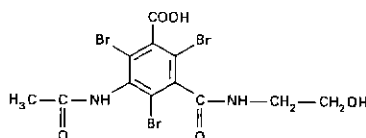
aceclofenacum
aceclofenac

glycolic acid, [o-(2,6-dichloroanilino)phenyl]acetate (ester)
 $C_{18}H_{13}Cl_2NO_4$ 89796-99-6



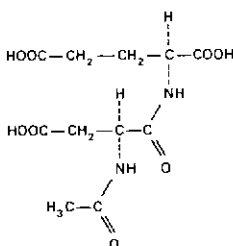
acidum broxitalamicum
broxitalamic acid

5-acetamido-2,4,6-tribromo-N-(2-hydroxyethyl)isophthalamic acid
 $C_{12}H_{11}Br_3N_2O_5$ 86216-41-3



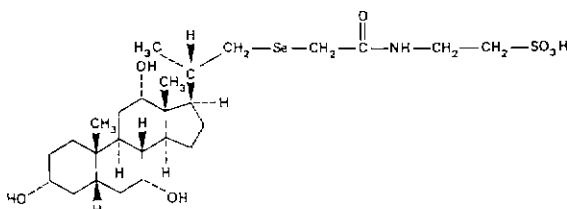
acidum isospaglumicum
isospaglumic acid

N-(N-acetyl-L- α -aspartyl)-L-glutamic acid
 $C_{11}H_{18}N_2O_8$ 3106-85-2



acidum tauroselcholicum
tauroselcholic acid

N-[[[(20S)-3 α ,7 α ,12 α -trihydroxy-20-methyl-5 β -pregnan-21-yl]selenyl]acetyl]taurine
 $C_{28}H_{45}NO_7SSe$ 75018-71-2



almagodratum
almagodrate

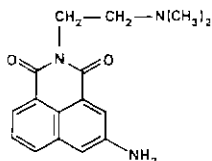
decaaluminum pentamagnesium hexacosahydroxide pentaoxide bis(sulfate)
hydrate
 $Al_{10}H_{24}Mg_5O_{35}S_2 \cdot nH_2O$
 $[Al_{10}Mg_5(OH)_{26}O_5](SO_4)_2 \cdot nH_2O$

Proposed International
Nonproprietary Name (Latin, English)

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

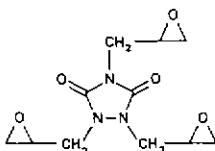
amonafidum
amonafide

3-amino-N-[2-(dimethylamino)ethyl]naphthalimide
 $C_{16}H_{17}N_3O_2$ 69408-81-7



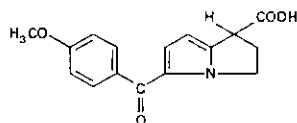
anaxironum
anaxirone

tris(2,3-epoxypropyl)bicarbamide
 $C_{11}H_{15}N_3O_5$ 77658-97-0



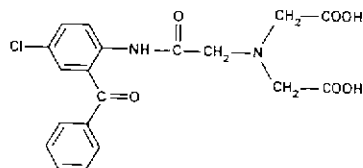
anirolacum
anirolac

(±)-5-*p*-anisoyl-2,3-dihydro-1*H*-pyrrolizine-1-carboxylic acid
 $C_{16}H_{13}NO_4$ 66635-85-6



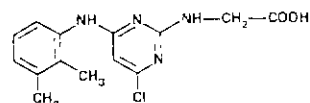
arcofeninum
pfenin

[[[(2-benzoyl-4-chlorophenyl)carbamoyl]methyl]imino]diacetic acid
 $C_{19}H_{17}ClN_2O_6$ 87071-16-7



aronixilum
aronixil

N-[4-chloro-6-(2,3-xylidino)-2-pyrimidinyl]glycine
 $C_{14}H_{13}ClN_4O_2$ 86627-15-8

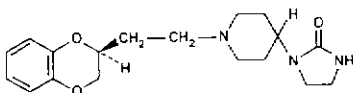


Proposed International
Nonproprietary Name (Latin, English)

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

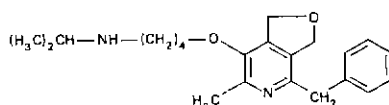
azaloxanum
azaloxan

(S)-1-[1-[2-(1,4-benzodioxan-2-yl)ethyl]-4-piperidyl]-
2-imidazolidinone
 $C_{18}H_{25}N_3O_3$ 72822-56-1



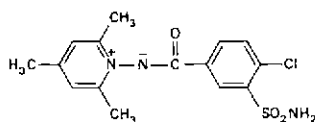
barucaïnidium
barucaïnide

4-benzyl-1,3-dihydro-7-[4-(isopropylamino)butoxy]-6-
methylfuro[3,4-c]pyridine
 $C_{22}H_{30}N_2O_2$ 79784-22-8



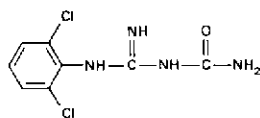
besulpamidum
besulpamide

1-(4-chloro-3-sulfamoylbenzamido)-2,4,6-trimethylpyridinium
hydroxide, inner salt
 $C_{13}H_{18}ClN_3O_3S$ 90992-25-9



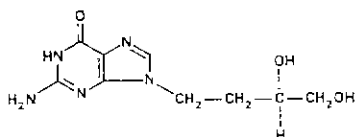
biclodilum
biclodil

[(2,6-dichlorophenyl)amidino]urea
 $C_8H_6Cl_2N_4O$ 85125-49-1



buciclovirum
buciclovir

(R)-9-(3,4-dihydroxybutyl)guanine
 $C_8H_{12}N_4O_3$ 86304-28-1

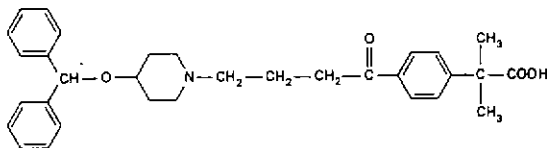


Proposed International
Nonproprietary Name (Latin, English)

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

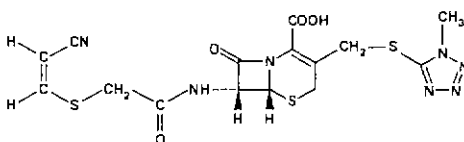
carebastinum
carebastine

p-[4-[4-(diphenylmethoxy)piperidino]butyryl]- α -methylhydratropic acid
 $C_{32}H_{37}NO_4$ 90729-42-3



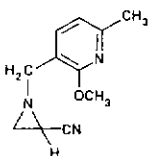
cefivitrilum
cefivitril

(6*R*,7*R*)-7-[2-[[*Z*]-2-cyanovinyl]thio]acetamido]-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
 $C_{15}H_{15}N_7O_4S_3$ 66474-36-0



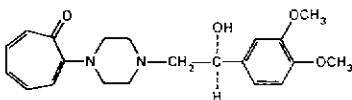
ciamexonum
ciamexon

(\pm)-1-[(2-methoxy-6-methyl-3-pyridyl)methyl]-2-aziridinecarbonitrile
 $C_{11}H_{13}N_3O$ 75985-31-8



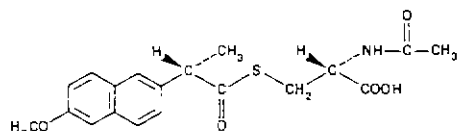
clodopum
cladopa

(-)-(S)-2-[4-(β -hydroxy-3,4-dimethoxyphenethyl)-1-piperazinyl]-2,4,6-cycloheptatrien-1-one
 $C_{21}H_{26}N_2O_4$ 80109-27-9



cinaproxenum
cinaproxen

N-acetyl-L-cysteine (+)-(S)-6-methoxy- α -methyl-2-naphthaleneacetate (ester)
 $C_{19}H_{21}NO_5S$ 89163-44-0

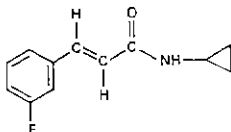


Proposed International
Nonproprietary Name (Latin, English)

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

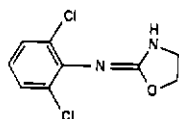
cinflumidum
cinflumide

(E)-N-cyclopropyl-m-fluorocinnamamide
C₁₂H₁₂FNO 64379-93-7



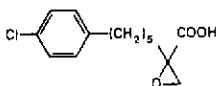
clidafidinum
clidafidine

2-[(2,6-dichlorophenyl)imino]oxazolidine
C₉H₈Cl₂N₂O 33588-20-4



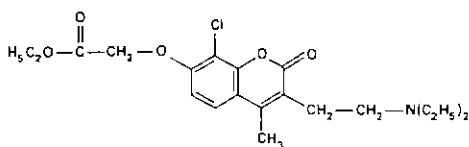
clomoxirum
clomoxir

(±)-2-[5-(p-chlorophenyl)pentyl]glycidic acid
C₁₄H₁₇ClO₃ 88431-47-4



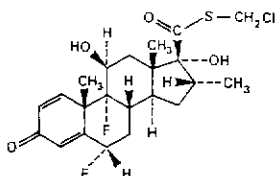
cloricromenum
cloricromen

ethyl [[8-chloro-3-[2-(diethylamino)ethyl]-4-methyl-2-oxo-2H-1-benzopyran-7-yl]oxy]acetate
C₂₈H₂₈ClNO₅ 68206-94-0



cloticasonum
cloticasone

S-(chloromethyl) 6α,9-difluoro-11β,17-dihydroxy-16α-methyl-3-oxoandrosta-1,4-diene-17β-carbothioate
C₂₂H₂₇ClF₂O₄S 87556-66-9

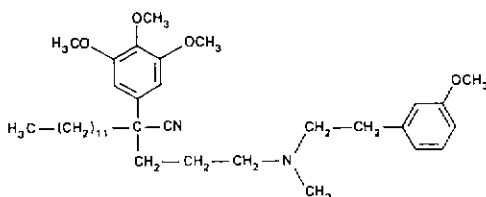


Proposed International
Nonproprietary Name (Latin, English)

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

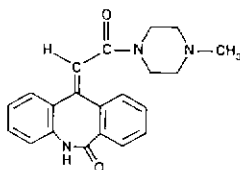
dagapamilum
dagapamil

2-[3-[(*m*-methoxyphenethyl)methylamino]propyl]-2-(3,4,5-
trimethoxyphenyl)tetradecanenitrile
 $C_{36}H_{56}N_2O_4$ 85247-76-3



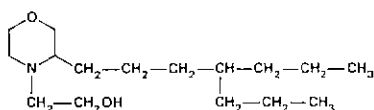
darenzepinum
darenzepine

(*E*)-1-[(5,6-dihydro-6-oxo-11-morphanthridinylidene)acetyl]-4-
methylpiperazine
 $C_{21}H_{21}N_3O_2$ 84629-61-8



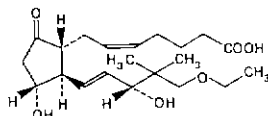
decapinolum
decapinol

(±)-3-(4-propylheptyl)-4-morpholineethanol
 $C_{16}H_{33}NO_2$ 79874-76-3



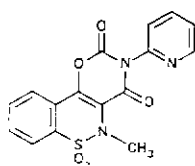
dimoxaprostum
dimoxaprost

(*Z*)-7-[(1*RS*,2*RS*,3*RS*)-2-[(*E*)-(3*R*)-5-ethoxy-3-hydroxy-4,4-dimethyl-
1-pentenyl]-3-hydroxy-5-oxocyclopentyl]-5-heptenoic acid
 $C_{27}H_{34}O_6$ 90243-98-4



droxicamum
droxicam

5-methyl-3-(2-pyridyl)-2*H*,5*H*-1,3-oxazino[5,6-*c*][1,2]benzothiazine-
2,4(3*H*)-dione 6,6-dioxide
 $C_{16}H_{11}N_3O_5S$ 90101-16-9

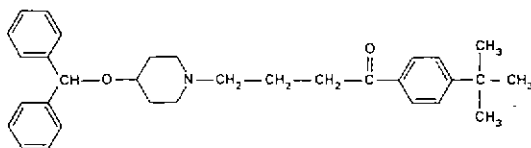


Proposed International
Nonproprietary Name (Latin, English)

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

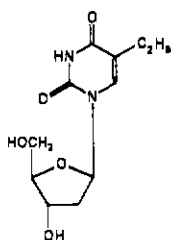
ebastinum
ebastine

4'-*tert*-butyl-4-[4-(diphenylmethoxy)piperidino]butyrophenone
 $C_{32}H_{35}NO_2$ 90729-43-4



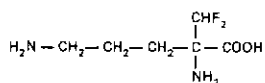
edoxudinum
edoxudine

2'-deoxy-5-ethyluridine
 $C_{11}H_{16}N_2O_5$ 15176-29-1



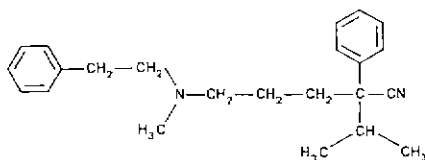
eflornithinum
eflornithine

2-(difluoromethyl)-DL-ornithine
 $C_6H_{12}F_2N_2O_2$ 67037-37-0



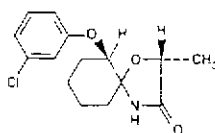
emopamilum
emopamil

2-isopropyl-5-(methylphenethylamino)-2-phenylvaleronitrile
 $C_{23}H_{30}N_2$ 78370-13-5



enilospironeum
enilospirone

(2*R*,5*RS*,6*R*)-6-(*m*-chlorophenoxy)-2-methyl-1-oxa-4-azaspiro-
[4.5]decan-3-one
 $C_{15}H_{11}ClNO_3$ 59798-73-1

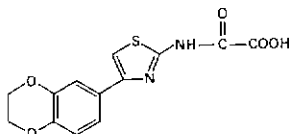


Proposed International
Nonproprietary Name (Latin, English)

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

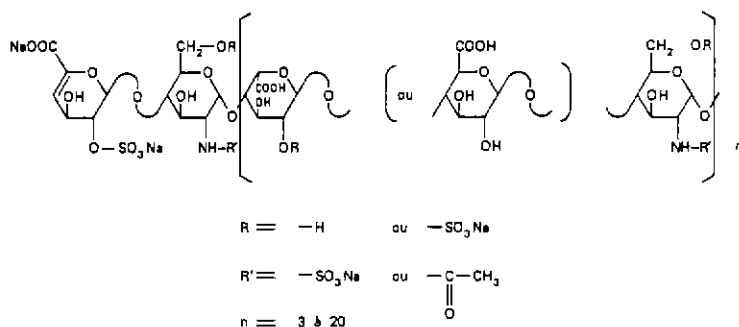
enoxamastum
enoxamast

[4-(1,4-benzodioxan-6-yl)-2-thiazolyl]oxamic acid
 $C_{13}H_{10}N_2O_5S$ 74604-76-5



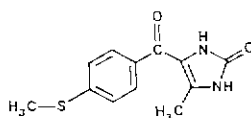
enoxaparinum
enoxaparin

heparin of low molecular mass presenting a 4-eno pyranosurionate sodium structure at the non reducing end of the chain



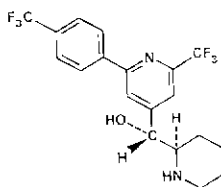
enoximonum
enoximone

4-methyl-5-[p-(methylthio)benzoyl]-4-imidazolin-2-one
 $C_{12}H_{12}N_2O_2S$ 77671-31-9



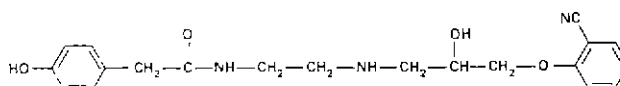
enpirolinum
enpiroline

(±)-(R*,R*)-a-[2-(trifluoromethyl)-6-(a,a,a-trifluoro-
p-tolyl)-4-pyridyl]-2-piperidinemethanol
 $C_{18}H_{18}F_6N_2O$ 66364-73-6



epanololum
epanolol

(±)-N-[2-[[3-(o-cyanophenoxy)-2-hydroxypropyl]amino]ethyl]-
2-(p-hydroxyphenyl)acetamide
 $C_{20}H_{23}N_3O_4$ 86880-51-5

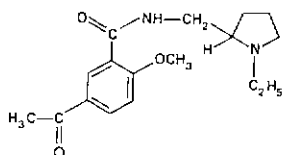


Proposed International
Nonproprietary Name (Latin, English)

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

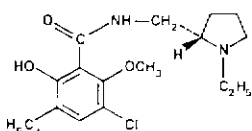
etacepridum
etacepride

5-acetyl-N-[(1-ethyl-2-pyrrolidiny)methyl]-o-anisamide
 $C_{17}H_{24}N_2O_3$ 68788-56-7



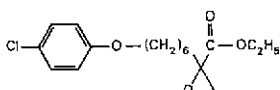
eticlopridum
eticlopride

(-)-(S)-5-chloro-3-ethyl-N-[(1-ethyl-2-pyrrolidiny)methyl]-6-methoxysalicylamide
 $C_{17}H_{25}ClN_2O_3$ 84226-12-0



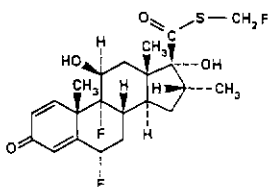
etomoxirum
etomoxir

(±)-ethyl 2-[6-(p-chlorophenoxy)hexyl]glycidate
 $C_{17}H_{25}ClO_4$ 82258-36-4



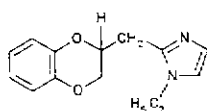
fluticasone
fluticasone

S-(fluoromethyl) 6α,9-difluoro-11β,17-dihydroxy-16α-methyl-3-oxoandrosta-1,4-diene-17β-carbothioate
 $C_{22}H_{27}F_3O_4S$ 90566-53-3



imiloxanum
imiloxan

(±)-2-(1,4-benzodioxan-2-ylmethyl)-1-ethylimidazole
 $C_{14}H_{16}N_2O_2$ 81167-16-0

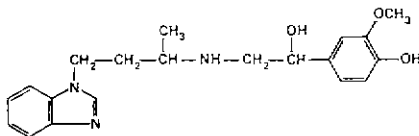


Proposed International
Nonproprietary Name (Latin, English)

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

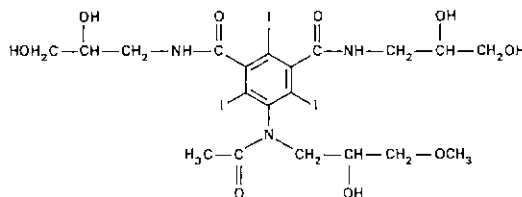
imoxiterolum
imoxiterol

α -[[[3-(1-benzimidazolyl)-1-methylpropyl]amino]methyl]vanillyl alcohol
 $C_{20}H_{25}N_3O_3$ 88578-07-8



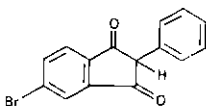
iopentolum
iopentol

N,N'-bis(2,3-dihydroxypropyl)-5-[*N*-(2-hydroxy-3-methoxypropyl)acetamido]-2,4,6-triiodoisophthalamide
 $C_{20}H_{28}I_3N_3O_9$ 89797-00-2



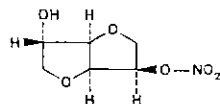
isobromindionum
isobromindione

(\pm)-5-bromo-2-phenyl-1,3-indandione
 $C_{15}H_9BrO_2$ 1470-35-5



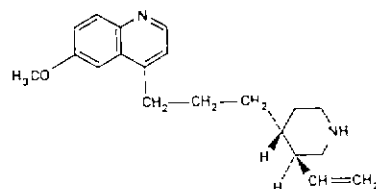
isosorbidi mononitras
isorbide mononitrate

1,4:3,6-dianhydro-D-glucitol 5-nitrate
 $C_6H_8NO_6$ 16051-77-7



ivoqualinum
ivoqualine

6-methoxy-4-[3-[(3*S*,4*R*)-3-vinyl-4-piperidyl]propyl]quinoline
 $C_{20}H_{28}N_2O$ 72714-75-1

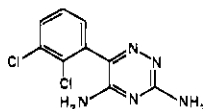


Proposed International
Nonproprietary Name (Latin, English)

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

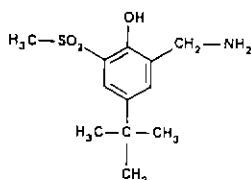
lamotriginum
lamotrigine

3,5-diamino-6-(2,3-dichlorophenyl)-as-triazine
 $C_9H_7Cl_2N_5$ 84057-84-1



lemidosulum
lemidosul

α -amino-4-*tert*-butyl-6-(methylsulfonyl)-*o*-cresol
 $C_{12}H_{19}NO_3S$ 88041-40-1



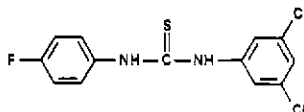
lodinixilum
lodinixil

4-chloro-2-(dimethylamino)-6-(2,3-xylylidino)pyrimidine
 $C_{14}H_{17}ClN_4$ 86627-50-1



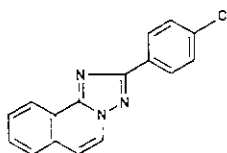
loflucarbanum
loflucarban

3,5-dichloro-4'-fluorothiocarbanilide
 $C_{13}H_9Cl_2FN_2S$ 790-69-2



lotrifenum
lotrifen

2-(*p*-chlorophenyl)-s-triazolo[5,1-*a*]isoquinoline
 $C_{18}H_{10}ClN_3$ 66535-86-2

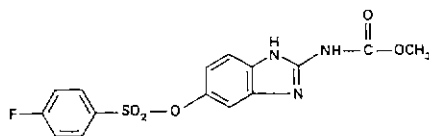


Proposed International
Nonproprietary Name (Latin, English)

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

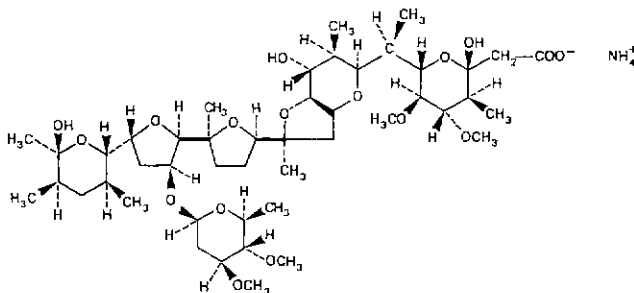
luxabendazolum
luxabendazole

methyl 5-hydroxy-2-benzimidazolecarbamate, *p*-fluorobenzenesulfonate
(ester)
 $C_{15}H_{12}FN_3O_5S$ 90509-02-7



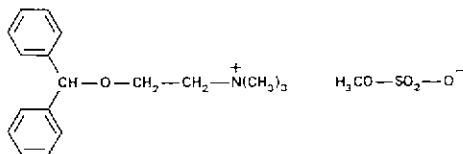
maduramicinum
maduramicin

ammonium (2*R*,3*S*,4*S*,5*R*,6*S*)-tetrahydro-2-hydroxy-6-[(*R*)-1-
[(2*S*,5*R*,7*S*,8*R*,9*S*)-9-hydroxy-2,8-dimethyl-2-
[(2*S*,2'*R*,3'*S*,5*R*,5'*R*)-octahydro-2-methyl-3'-
[[(2*R*,4*S*,5*S*,6*S*)-tetrahydro-4,5-dimethoxy-6-methyl-2*H*-
pyran-2-yl]oxy]-5'-[(2*S*,3*S*,5*R*,6*S*)-tetrahydro-6-hydroxy-
3,5,6-trimethyl-2*H*-pyran-2-yl]] [2,2'-bifuran]-5-yl]-1,6-
dioxaspiro[4.5]dec-7-yl]ethyl]-4,5-dimethoxy-3-methyl-2*H*-
pyran-2-acetate
 $C_{47}H_{83}NO_{17}$ 84878-61-5



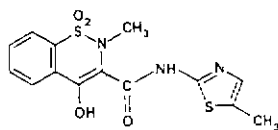
mefenidramil metil-
sulfas
mefenidramium
metilsulfate

[2-(diphenylmethoxy)ethyl]trimethylammonium
methyl sulfate
 $C_{19}H_{27}NO_5S$ 4858-60-0



meloxicamum
meloxicam

4-hydroxy-2-methyl-*N*-(5-methyl-2-thiazolyl)-2*H*-1,2-benzothiazine-
3-carboxamide 1,1-dioxide
 $C_{14}H_{13}N_3O_4S_2$ 71125-38-7

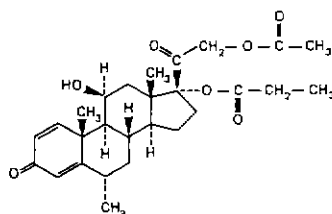


Proposed International
Nonproprietary Name (Latin, English)

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

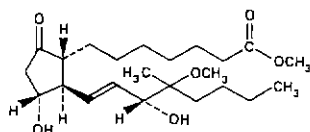
methylprednisoloni
aceponas
methylprednisoione
aceponate

11 β ,17,21-trihydroxy-6 α -methylpregna-1,4-diene-3,20-
dione, 21-acetate 17-propionate
 $C_{27}H_{38}O_7$ 86401-95-8



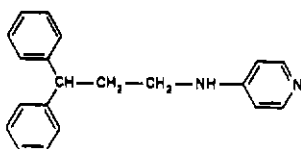
mexiprostilum
mexiprostil

methyl (1*R*,2*R*,3*R*)-3-hydroxy-2-[(*E*)-(3*R*)-3-hydroxy-4-methoxy-4-
methyloctyl]-5-oxocyclopentaneheptanoate
 $C_{23}H_{40}O_6$ 88980-20-5



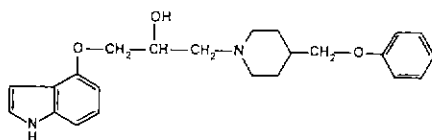
milverinum
milverine

4-[(3,3-diphenylpropyl)amino]pyridine
 $C_{20}H_{20}N_2$ 75437-14-8



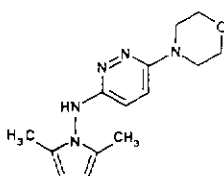
mindodilolum
mindodilol

(\pm)- α -[(indol-4-yloxy)methyl]-4-(phenoxy)methyl)-1-
piperidineethanol
 $C_{23}H_{28}N_2O_3$ 70260-53-6



mopidralazinum
mopidralazine

4-[6-[(2,5-dimethylpyrrol-1-yl)amino]-3-pyridazinyl]morpholine
 $C_{14}H_{19}N_5O$ 75841-82-6

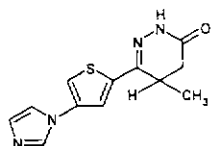


Proposed International
Nonproprietary Name (Latin, English)

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

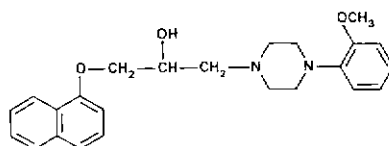
motapizonum
motapizone

(±)-4,5-dihydro-6-(4-imidazol-1-yl-2-thienyl)-5-methyl-3(2*H*)-pyridazinone
C₁₂H₁₂N₄OS 90697-57-7



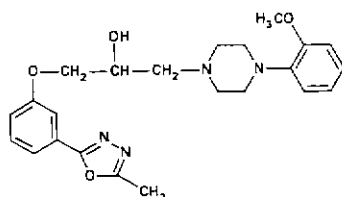
naftopidilum
naftopidil

(±)-4-(*o*-methoxyphenyl)- α -[(1-naphthyl)oxy)methyl]-1-piperazineethanol
C₂₄H₂₈N₂O₃ 57149-07-2



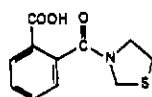
nesapidilum
nesapidil

(±)-1-[4-(*o*-methoxyphenyl)-1-piperazinyl]-3-[*m*-(5-methyl-1,3,4-oxadiazol-2-yl)phenoxy]-2-propanol
C₂₃H₂₈N₄O₄ 90326-85-5



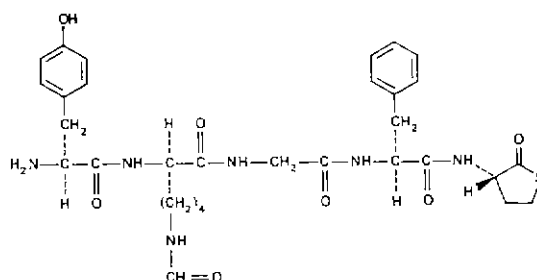
nesosteinum
nesosteine

α -(3-thiazolidinylcarbonyl)benzoic acid
C₁₁H₁₁NO₃S 84233-61-4



ociltidum
ociltide

L-tyrosyl-N^F-formyl-D-lysylglycylphenyl-N-(tetrahydro-2-oxo-3-thienyl)-L-alaninamide
C₃₁H₄₀N₈O₇S 78410-57-8

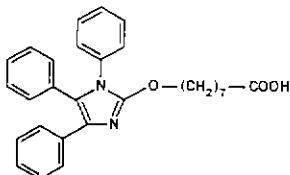


Proposed International
Nonproprietary Name (Latin, English)

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

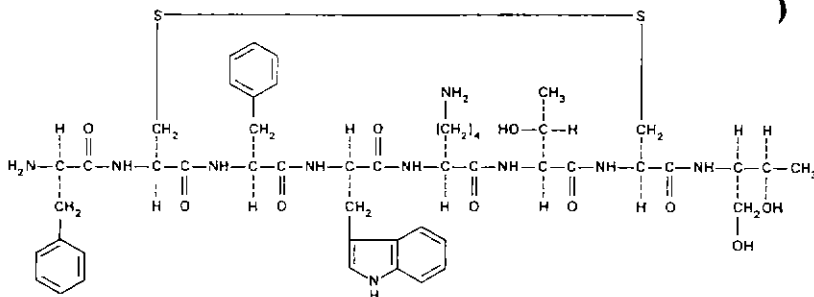
octimibatium
octimibate

8-[(1,4,5-triphenylimidazol-2-yl)oxy]octanoic acid
 $C_{29}H_{30}N_2O_3$ 89838-96-0



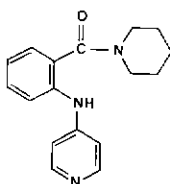
octreotidum
octreotide

D-phenylalanyl-L-cysteiny-L-phenylalanyl-D-tryptophyl-L-
lysyl-L-threonyl-N-[(1*R*,2*R*)-2-hydroxy-1-(hydroxymethyl)-
propyl]-L-cysteinamide cyclic (2→7)-disulfide
 $C_{49}H_{66}N_{10}O_{10}S_2$ 83150-76-9



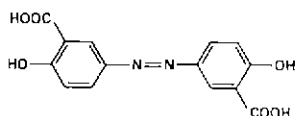
oforninum
ofornine

1-(*N*-4-pyridylanthraniloyl)piperidine
 $C_{17}H_{19}N_3O$ 87784-12-1



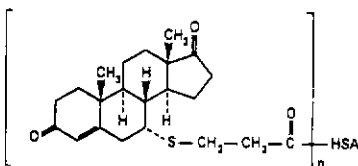
olsalazinum
olsalazine

5,5'-azodisalicylic acid or C.I. mordant yellow 5
 $C_{14}H_{10}N_2O_6$ 15722-48-2



ovandrotonum albuminum
ovandrotone albumin

3-[(3,17-dioxoandrost-4-en-7 α -yl)thio]propionic acid,
serum albumin conjugate

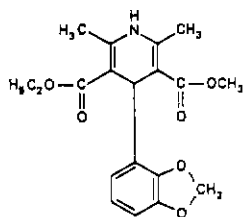


Proposed International
Nonproprietary Name (Latin, English)

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

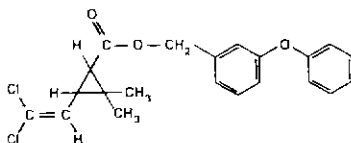
oxodipinum
oxodipine

ethyl methyl 1,4-dihydro-2,6-dimethyl-4-[2,3-(methylene-
dioxo)phenyl]-3,5-pyridinedicarboxylate
 $C_{19}H_{21}NO_6$ 90729-41-2



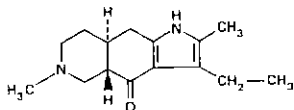
permethrinum
permethrin

m-phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclo-
propanecarboxylate
 $C_{21}H_{20}Cl_2O_3$ 52645-53-1



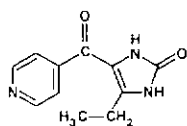
piquindonum
piquindone

(±)-*trans*-3-ethyl-1,4a,5,6,7,8,8a,9-octahydro-2,6-dimethyl-
4*H*-pyrrolo[2,3-*g*]isoquinolin-4-one
 $C_{15}H_{22}N_2O$ 78541-97-6



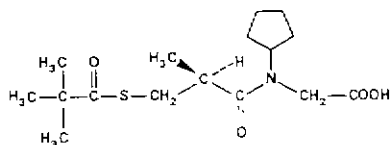
piroximonomum
piroximone

4-ethyl-5-isonicotinoyl-4-imidazolin-2-one
 $C_{11}H_{11}N_3O_2$ 84490-12-0



pivoprilum
pivopril

2,2-dimethylthiopropionic acid, *S*-ester with (–)-(*S*)-*N*-
cyclopentyl-*N*-(3-mercapto-2-methylpropionyl)glycine
 $C_{18}H_{27}NO_4S$ 81045-50-3

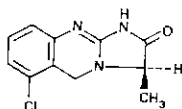


Proposed International
Nonproprietary Name (Latin, English)

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

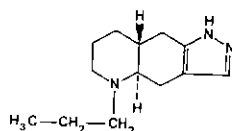
quazinsonum
quazinone

(*R*)-6-chloro-1,5-dihydro-3-methylimidazo[2,1-*b*]quinazolin-
2(3*H*)-one
 $C_{11}H_{10}ClN_3O$ 70018-51-8



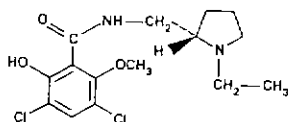
quinpirolum
quinpirole

(-)-(4*aR*,8*aR*)-4,4*a*,5,6,7,8,8*a*,9-octahydro-5-propyl-1*H*-
pyrazolo[3,4-*g*]quinoline
 $C_{13}H_{21}N_3$ 85760-74-3



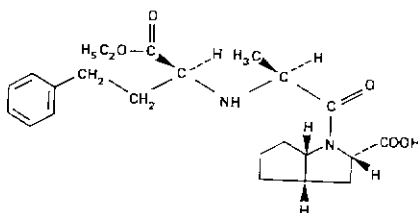
raclopridum
raclopride

(-)-(*S*)-3,5-dichloro-*N*-[(1-ethyl-2-pyrrolidiny)methyl]-
6-hydroxy-*o*-anisamide
 $C_{15}H_{20}Cl_2N_2O_3$ 84225-95-6



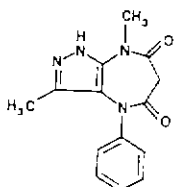
ramiprilum
ramipril

(2*S*,3*aS*,6*aS*)-1-[(*S*)-*N*-[(*S*)-1-carboxy-3-phenylpropyl]alanyl]-
octahydrocyclopenta[*b*]pyrrole-2-carboxylic acid, 1-ethyl ester
 $C_{23}H_{32}N_2O_5$ 87333-19-5



razobazamum
razobazam

4,8-dihydro-3,8-dimethyl-4-phenylpyrazolo[3,4-*b*][1,4]diazepine-5,7(1*H*,6*H*)-
dione
 $C_{14}H_{14}N_4O_2$ 78466-98-5

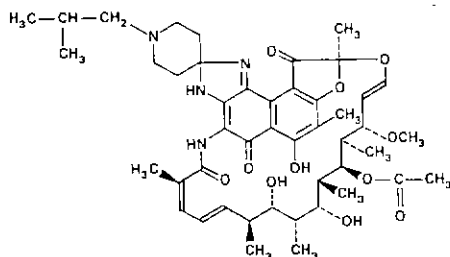


Proposed International
Nonproprietary Name (Latin, English)

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

rifabutinum
rifabutin

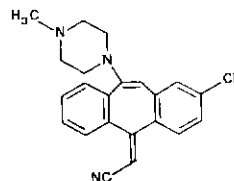
(9*S*,12*E*,14*S*,15*R*,16*S*,17*R*,18*R*,19*R*,20*S*,21*S*,22*E*,24*Z*)-6,16,18,20-tetrahydroxy-1'-isobutyl-14-methoxy-7,9,15,17,19,21,25-heptamethylspiro[9,4-(epoxypentadeca[1,11,13]trienimino)-2*H*-furo[2',3':7,8]naphth[1,2-*d*]imidazole-2,4'-piperidine]-5,10,26-(3*H*,9*H*)-trione 16-acetate
C₄₆H₄₂N₄O₁₁ 72559-06-9



7)

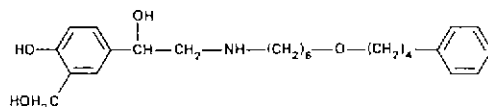
rilapinum
rilapine

(*Z*)-2-chloro-10-(4-methyl-1-piperazinyl)-5*H*-dibenzo[*a,d*]cycloheptene-Δ^{5,α}-acetonitrile
C₂₂H₂₀ClN₃ 79781-95-6



salmaterolum
salmaterol

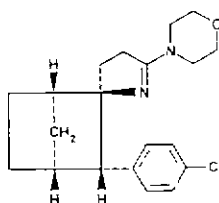
(±)-4-hydroxy-*a*'-[6-(4-phenylbutoxy)hexyl]amino]methyl]-*m*-xylene-*α,α'*-diol
C₂₅H₃₇NO₄ 89365-50-4



8)

spiclaminum
spiclamine

(-)-(1*R*,2*R*,3*S*,4*S*)-3-(*p*-chlorophenyl)-2'-morpholinospiro[norbornane-2,5'-[1]pyrroline]
C₂₀H₂₅ClN₂O 90243-97-3

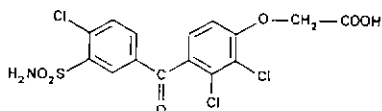


Proposed International
Nonproprietary Name (Latin, English)

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

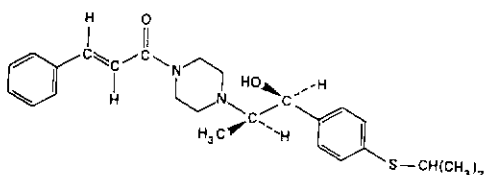
sulicrinatum
sulicrinat

[2,3-dichloro-4-(4-chloro-3-sulfamoylbenzoyl)phenoxy]acetic acid
 $C_{15}H_{10}Cl_3NO_5S$ 90207-12-8



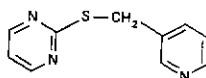
sunagrelum
sunagrel

erythro-4-cinnamoyl- α -[p-(isopropylthio)phenyl]- β -methyl-1-piperazineethanol
 $C_{25}H_{32}N_2O_2S$ 85418-85-5



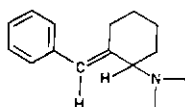
tasuldinum
tasuldine

2-[(3-pyridyl)methyl]thio]pyrimidine
 $C_{10}H_8N_4S$ 88579-39-9



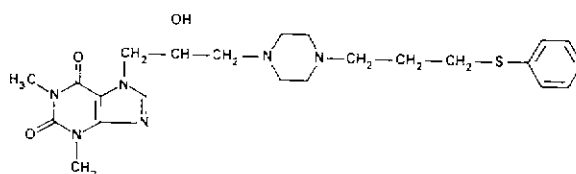
tazadolenum
tazadolene

(±)-(E)-1-(2-benzylidenecyclohexyl)azetidine
 $C_{18}H_{21}N$ 84812-85-1



tazifyllinum
tazifylline

7-[2-hydroxy-3-[4-[3-(phenylthio)propyl]-1-piperazinyl]propyl]theophylline
 $C_{23}H_{32}N_6O_3S$ 79712-55-3

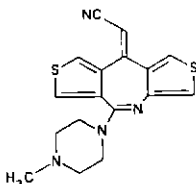


Proposed International
Nonproprietary Name (Latin, English)

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

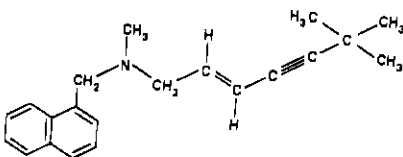
tenilapinum
tenilapine

(E)-5-(4-methyl-1-piperazinyl)-9H-dithieno[3,4-b:3',4'-e]-
azepine- $\Delta^{9,\alpha}$ -acetonitrile
C₁₇H₁₈N₄S₂ 82650-83-7



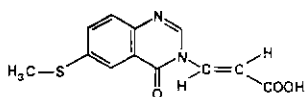
terbinafinum
terbinafine

(E)-N-(6,6-dimethyl-2-hepten-4-ynyl)-N-methyl-1-naphthalenemethylamine
C₂₁H₂₈N 78628-80-5



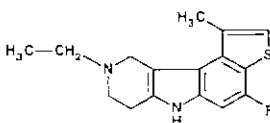
tiacrilastum
tiacrilast

(E)-6-(methylthio)-4-oxo-3(4H)-quinazolineacrylic acid
C₁₂H₁₀N₂O₃S 78299-53-3



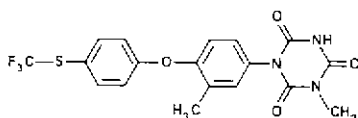
tiacurbinum
tiacurbin

9-ethyl-4-fluoro-7,8,9,10-tetrahydro-1-methyl-6H-
pyrido[4,3-b]thieno[3,2-e]indole
C₁₆H₁₇FN₂S 89875-86-5



toltrazurilum
toltrazuril

1-methyl-3-[4-[p-[(trifluoromethyl)thio]phenoxy]-m-tolyl]-
s-triazine-2,4,6(1H,3H,5H)-trione
C₁₈H₁₄F₃N₃O₄S 69004-03-1

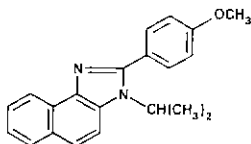


Proposed International
Nonproprietary Name (Latin, English)

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

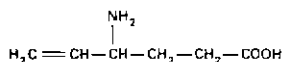
tomoxiprolum
tomoxiprole

3-isopropyl-2-(*p*-methoxyphenyl)-3*H*-naphth[1,2-*d*]imidazole
 $C_{21}H_{20}N_2O$ 76145-76-1



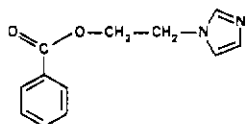
vigabatrinum
vigabatrin

4-amino-5-hexenoic acid
 $C_6H_{11}NO_2$ 60643-86-9



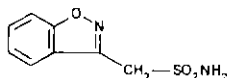
zimidobenum
zimidoben

2-imidazol-1-ylethyl benzoate or imidazole-1-ethanol benzoate
(ester)
 $C_{12}H_{12}N_2O_2$ 90697-56-6



zonisamidum
zonisamide

1,2-benzisoxazole-3-methanesulfonamide
 $C_8H_8N_2O_3S$ 68291-97-4



Names for Radicals and Groups

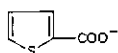
Some substances for which a proposed international nonproprietary name has been established may be used in the form of salts or esters. The radicals or groups involved

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.

tenoas
tenoate

2-thiophenecarboxylate
 $C_5H_3O_2S$



AMENDMENT TO PREVIOUS LISTS

Cumulative List No. 6, 1982

International Nonproprietary Names (INN) for Pharmaceutical Substances:

	<i>delete</i>	<i>insert</i>
p. 162	interferonum	interferonum alfa
(11)	interferon	interferon alfa
		interferonum beta
		interferon beta
		interferonum gamma
		interferon gamma

The entries on interferon in List 12 of proposed and List 5 of recommended INNs respectively should be replaced by the following:

Interferon alfa: A secreted protein, known previously as leucocyte interferon or lymphoblastoid interferon, that is produced according to the information coded by a species of interferon gene and that exerts non-specific antiviral activity at least in homologous cells through cellular metabolic processes involving synthesis of both ribonucleic acid and protein. Sub-species of the human alfa gene produce protein variants designated by the hyphenated addition of a number, e.g., interferon alfa-2, or in the case of a mixture of proteins, by an alphanumeric designation e.g., N1, N2 etc. The numbers conform with the recommendations of the Interferon Nomenclature Committee; the alphanumeric designations will be assigned by the World Health Organization on request.

In the case of interferon alfa-2 it is necessary to qualify the number by a letter according to the peptide sequence occurring at positions 23 and 34 in the chain:

	<i>Position</i>	
	23	34
alfa-2A	Lys	His
alfa-2B	Arg	His
alfa-2C	Arg	Arg

Further assignments will be made by the World Health Organisation on request.

Interferon beta: A secreted protein, known previously as fibroblast interferon, that is produced according to the information coded by a species of interferon gene and that exerts non-specific antiviral activity at least in homologous cells through cellular metabolic processes involving synthesis of both ribonucleic acid and protein.

Interferon gamma: A secreted protein, known previously as immune interferon, that is produced according to the information coded by a species of interferon gene and that exerts non-specific antiviral activity at least in homologous cells through cellular metabolic processes involving synthesis of both ribonucleic acid and protein.

	<i>delete</i>	<i>insert</i>
p. 218	noramidopyrini methano-	metamizolum
	sulfonas natrium	metamizole
	noramidopyrine methane-	
	sulfonate sodium	

$4 = [1] (53) (!)$

International Nonproprietary Names (Prop. INN): List 16

- | | | |
|------|---------------------------------|---|
| p. 3 | colestyraminum
colestyramine | replace definition by.
"A styrene-divinylbenzene copolymer containing quaternary ammonium groups. Each colestyramine name is followed by a number e.g. colestyramine 20, 25 etc. The number divided by 10 indicates the approximative percentage of divinylbenzene." |
|------|---------------------------------|---|

International Nonproprietary Names (Prop. INN): List 48

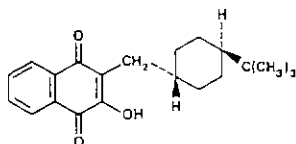
- | | | |
|------|--|--------------------------|
| | <i>delete</i> | <i>insert</i> |
| p. 2 | acidum pseudomonicum
pseudomonic acid | mupirocinum
mupirocin |

International Nonproprietary Names (Prop. INN): List 50

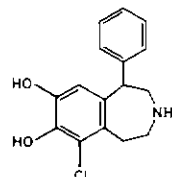
- | | | |
|-------|---------------------------|-----------------------------|
| | <i>delete</i> | <i>insert</i> |
| p. 12 | fisalaminum
fisalamine | mesalazinum
mesalazine |
| p. 21 | nivadipinum
nivadipine | nilvadipinum
nilvadipine |

International Nonproprietary Names (Prop. INN): List 51

- | | | |
|------|-------------------------------|--|
| p. 3 | buparvaquonum
buparvaquone | complete the chemical name by preceding it with (RS, RS; RS, SR) – and replace structure by: |
|------|-------------------------------|--|



- | | | |
|------|----------------------------|---|
| p. 8 | fenoldopamum
fenoldopam | complete chemical name by preceding it with (±) – and replace structure by: |
|------|----------------------------|---|



- | | | |
|------|-------------------------|---|
| p. 8 | glunicatum
glunicate | replace molecular formula by. $C_{38}H_{28}N_6O_{10}$ |
|------|-------------------------|---|

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. *Wld Hlth Org.*, 1955, 60, 3) and amended by the Board in resolution EB43 R9 (Off. Rec. *Wld Hlth Org.*, 1969, 173, 10).

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

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

1. 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 common stem. The following list contains examples of stems for groups of substances, particularly for new groups. There are many other stems in active use.¹ Where a stem is shown without any hyphens it may be used anywhere in the name

<i>Latin</i>	<i>English</i>	
-acum	-ac	}
-acidum	-actide	
-adolum	-adol	
-adol-	-adol-	}
-astum	-ast	
-astinum	-astine	
-azepamum	-azepam	}
-bactamum	-bactam	
bol	bol	
-buzonium	-buzone	}
-cain-	-cain-	
-cainum	-caine	
cef-	cef-	}
-cillinum	-cillin	
cort	cort	
-dipinum	-dipine	}
-fibratum	-fibrate	
-forminum	-formin	
gest	gest	}
gli-	gli-	
io-	io-	
-ium	-ium	}
-metacinum	-metacin	
-mycinum	-mycin	
-nidazolium	-nidazole	}
-ololum	-olol	
-oxacinum	-oxacin	
-pridum	-pride	}
-profenum	-profen	
prost	prost	
-relinum	-relin	}
-terolum	-terol	
-tidinum	-tidine	
-trexatum	-trexate	}
-verinum	-verine	
vin-	vin-	
-vin-	-vin-	}

anti-inflammatory agents of the ibufenac group
synthetic polypeptides with a corticotrophin-like action
analgesics

anti-asthmatic, anti-allergic substances not acting primarily as antihistamines
antihistaminics

substances of the diazepam group

β -lactamase inhibitors

steroids, anabolic

anti-inflammatory analgesics of the phenylbutazone group

antifibrillants substances with local anaesthetic activity

local anaesthetics

antibiotics, derivatives of cephalosporanic acid

antibiotics, derivatives of 6-aminopenicillanic acid

corticosteroids, except those of the prednisolone group

peripheral vasodilators of the nifedipine group

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

antibacterial agents of the nalidix acid group

sulpiride derivatives

anti-inflammatory substances of the ibuprofen group

prostaglandins

hypophyseal hormone release-stimulating peptides

bronchodilators, phenethylamine derivatives

H₂-receptor antagonists

folic acid antagonists

spasmolytics with a papaverine-like action

vinca type alkaloids

¹ A more extensive listing of stems is contained in the working document Pharm S/Nom 15 which is regularly updated and can be requested from Pharmaceuticals, WHO, Geneva.

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.

¹ 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.-