

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 39 Prop. INN not later than 31 July 1978.

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.

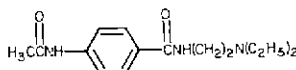
Proposed International Nonproprietary Names (Prop. INN): List 39²

Proposed International
Nonproprietary Name (Latin, English)

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

acecainidum
acecainide

4'-[[2-(diethylamino)ethyl]carbonyl]acetanilide
C₁₅H₂₃N₃O₂ 32795-44-1



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 18 of this Supplement (Annex 2). All names from Lists 1-37 of Proposed International Nonproprietary Names, together with a molecular formula index, will be found in: *International Nonproprietary Names for Pharmaceutical Substances. Cumulative list No. 5, 1977*, World Health Organization, Geneva, 1977 (ISBN 92 4 056011 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. 17.

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.

Lists of recommended international nonproprietary names were published in *Chron.*

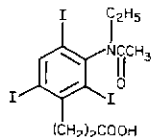
Wld Hlth Org., 1955, 9, 185; *WHO Chronicle*, 1959, 13, 106, 463; 1962, 16, 101; 1965, 19, 165, 206, 249; 1966, 20, 421; 1967, 21, 538; 1968, 22, 463; 1969, 23, 490; 1970, 24, 526; 1971, 25, 476; 1972, 26, 476; 1973, 27, 453; supplements to *WHO Chronicle*, 1974, Vol. 28, No. 10; 1975, Vol. 29, No. 10; 1976, Vol. 30, No. 10; 1977, Vol. 31, No. 10.

Proposed International
Nonproprietary Name (Latin, English)

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

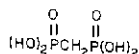
acidum ioprocecemicum
ioprocecemic acid

3-(*N*-ethylacetamido)-2,4,6-triiodohydrocinnamic acid
C₁₃H₁₄I₃NO₃ 1456-52-6



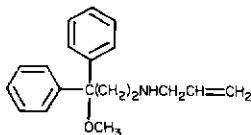
acidum medronicum
medronic acid

methylenediphosphonic acid
CH₆O₆P₂ 1984-15-2



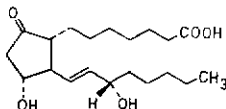
alimadolum
alimadol

N-(3-methoxy-3,3-diphenylpropyl)allylamine
C₁₉H₂₃NO 52742-40-2



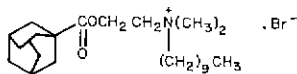
alprostadium
alprostadiil

(1*R*,2*R*,3*R*)-3-hydroxy-2-[(*E*)-(3*S*)-3-hydroxy-1-octenyl]-5-oxocyclo-
pentaneheptanoic acid
C₂₀H₃₄O₅ 745-65-3



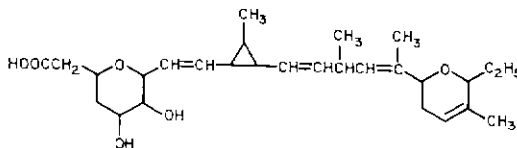
amantani bromidum
amantanium bromide

decyl(2-hydroxyethyl)dimethylammonium bromide 1-adamantanecarboxylate
C₂₅H₄₆BrNO₂ 58158-77-3



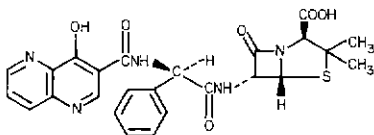
ambruticinum
ambruticin

6-[2-[2-[5-(6-ethyl-3,6-dihydro-5-methyl-2*H*-pyran-2-yl)-3-methyl-1,4-
hexadienyl]-3-methylcyclopropyl]vinyl]tetrahydro-4,5-dihydroxy-
2*H*-pyran-2-acetic acid
C₂₈H₄₂O₅ 58857-02-6



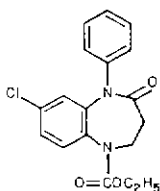
apalcillinum
apalcillin

(2*S*,5*R*,6*R*)-6-[(*R*)-2-(4-hydroxy-1,5-naphthyridine-3-carboxamido)-2-phenylacetamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid
C₂₅H₂₃N₅O₆S 63469-19-2



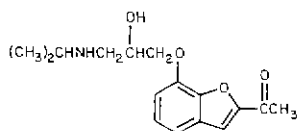
arfendazamum
arfendazam

ethyl 7-chloro-2,3,4,5-tetrahydro-4-oxo-5-phenyl-1*H*-1,5-benzodiazepine-1-carboxylate
C₁₈H₁₇ClN₂O₃ 37669-57-1



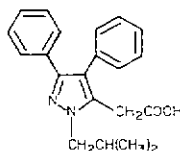
befunololum
befunolol

7-[2-hydroxy-3-(isopropylamino)propoxy]-2-benzofuranyl methyl ketone
C₁₆H₂₁NO₄ 39552-01-7



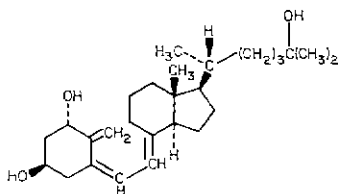
bufezolacum
bufezolac

1-isobutyl-3,4-diphenylpyrazole-5-acetic acid
C₂₁H₂₂N₂O₂ 50270-32-1



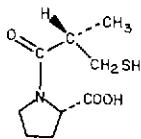
calcitriolum
calcitriol

(5*Z*,7*E*)-9,10-secocholesta-5,7,10(19)-triene-1 α ,3 β ,25-triol
C₂₇H₄₄O₃ 32222-06-3



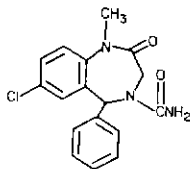
captoprilum
captopril

1-[(2*S*)-3-mercapto-2-methylpropionyl]-L-proline
C₉H₁₅NO₃S 62571-86-2



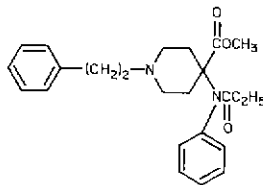
carburazepamum
carburazepam

7-chloro-1,2,3,5-tetrahydro-1-methyl-2-oxo-5-phenyl-4*H*-1,4-benzodiazepine-4-carboxamide
C₁₇H₁₆ClN₃O₂ 59009-93-7



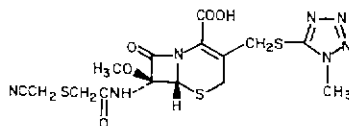
carfentanilum
carfentanil

methyl 1-phenethyl-4-(*N*-phenylpropionamido)isonipecotate
C₂₄H₃₀N₂O₃ 59708-52-0



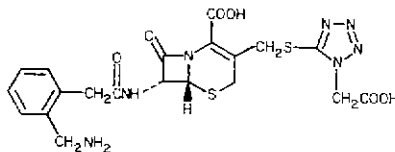
cefmetazolom
cefmetazole

(6*R*,7*S*)-7-[2-[(cyanomethyl)thio]acetamido]-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
C₁₅H₁₇N₇O₅S₃ 56796-20-4



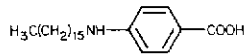
ceforanidum
ceforanide

(6*R*,7*R*)-7-[2-(α -amino-*o*-tolyl)acetamido]-3-[[[1-(carboxymethyl)-1*H*-tetrazol-5-yl]thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid
C₂₀H₂₁N₇O₆S₂ 60925-61-3



cetabenum
cetaben

p-(hexadecylamino)benzoic acid
C₂₃H₃₉NO₂ 55986-43-1

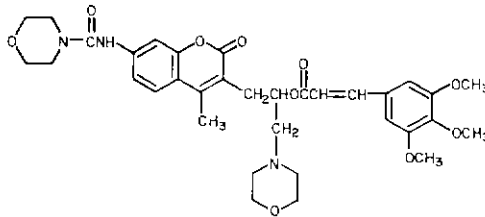


cideferrosum
cideferron

macromolecular complex of ferric hydroxide with dextrin and citric acid
64440-87-5

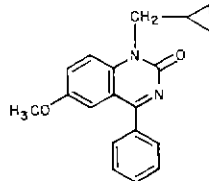
cinecromentum
cinecromen

3,4,5-trimethoxycinnamic acid ester with 3-(2-hydroxy-3-morpholinopropyl)-
4-methyl-7-(4-morpholinecarboxamido)coumarin
C₃₄H₄₁N₃O₁₀ 62380-23-8



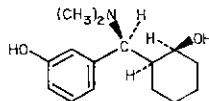
ciproquazonum
ciproquazone

1-(cyclopropylmethyl)-6-methoxy-4-phenyl-2(1*H*)-quinazolinone
C₁₉H₁₉N₂O₂ 33453-23-5



iramadolum
iramadol

(-)-(1*R**,2*R**)-2-[(*R**)- α -(dimethylamino)-*m*-hydroxybenzyl]cyclohexanol
C₁₅H₂₃NO₂ 63269-31-8



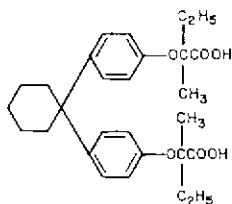
cisplatinum
cisplatin

cis-diamminedichloroplatinum
Cl₂H₆N₂Pt 15663-27-1



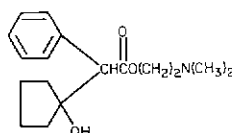
clonofibratum
clonofibrate

2,2'-[cyclohexylidenebis(*p*-phenyleneoxy)]bis[2-methylbutyric acid]
C₂₈H₃₆O₆ 30299-08-2



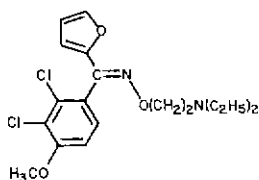
cyclopentolatum
cyclopentolate

2-(dimethylamino)ethyl 1-hydroxy- α -phenylcyclopentaneacetate
C₁₇H₂₅NO₃ 512-15-2



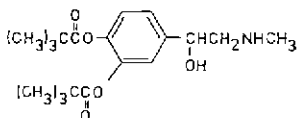
diclofurimum
diclofurime

2,3-dichloro-4-methoxyphenyl 2-furyl ketone (*E*)-*O*-[2-(diethylamino)-ethyl]oxime
C₁₈H₂₂Cl₂N₂O₃ 64743-08-4



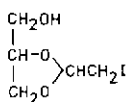
dipivefrinum
dipivefrine

(\pm)-3,4-dihydroxy- α -[(methylamino)methyl]benzyl alcohol 3,4-dipivalate
C₁₉H₂₉NO₅ 52365-63-6



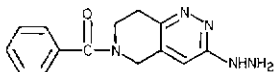
domiodolum
domiodol

2-(iodomethyl)-1,3-dioxolane-4-methanol
C₅H₉IO₃ 61869-07-6



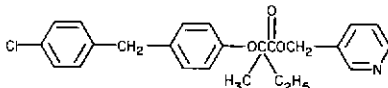
endralazinum
endralazine

6-benzoyl-3-hydrazino-5,6,7,8-tetrahydropyrido[4,3-*c*]pyridazine
C₁₄H₁₅N₅O 39715-02-1



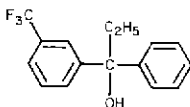
eniclobratum
eniclobrate

3-pyridylmethyl (±)-2-[[α-(*p*-chlorophenyl)-*p*-tolyl]oxy]-2-methylbutyrate
C₂₄H₂₄ClNO₃ 60662-18-2



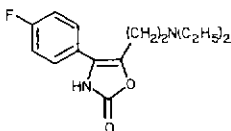
ymecinolium
ymecinol

α-ethyl-3-(trifluoromethyl)benzhydrol
C₁₆H₁₅F₃O 56430-99-0



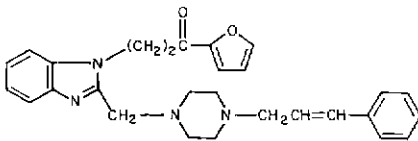
fluzoperinum
fluzoperine

5-[2-(diethylamino)ethyl]-4-(*p*-fluorophenyl)-4-oxazolin-2-one
C₁₅H₁₉FN₂O₂ 52867-77-3



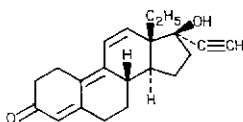
fuprazolum
fuprazole

3-[2-[(4-cinnamyl-1-piperazinyl)methyl]-1-benzimidazolyl]-1-(2-furyl)-1-propanone
C₂₈H₃₀N₄O₂ 60248-23-9



gestrinonum
gestrinone

13-ethyl-17-hydroxy-18,19-dinor-17α-pregna-4,9,11-trien-20-yn-3-one
C₂₁H₂₄O₂ 40542-65-2

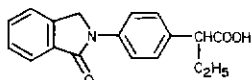


Proposed International
Nonproprietary Name (Latin, English)

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

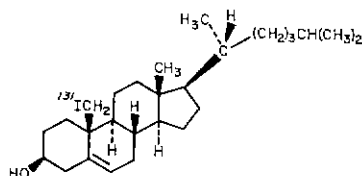
indobufenum
indobufen

(±)-2-[p-(1-oxo-2-isoindolinyl)phenyl]butyric acid
C₁₈H₁₇NO₃ 63610-08-2



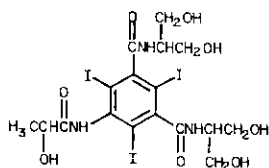
iodocholesterolum (¹³¹I)
iodocholesterol (¹³¹I)

19-iodo-¹³¹I/cholest-5-en-3β-ol
C₂₇H₄₅¹³¹I 42220-21-3



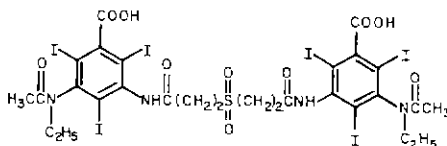
iomapidolum
iomapidol

N,N'-bis[2-hydroxy-1-(hydroxymethyl)ethyl]-2,4,6-triiodo-5-lactamidoisophthalamide
C₁₇H₂₂I₃N₃O₈ 62883-00-5



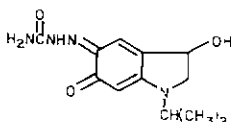
iosulamidum
iosulamide

3,3'-[sulfonylbis(ethylenecarbonylimino)]bis[5-(*N*-ethylacetamido)-2,4,6-triiodobenzoic acid]
C₂₈H₂₈I₆N₄O₁₀S 23205-04-1



iprazochromum
iprazochrome

3-hydroxy-1-isopropyl-5,6-indolinedione 5-semicarbazone
C₁₂H₁₆N₄O₃ 7248-21-7

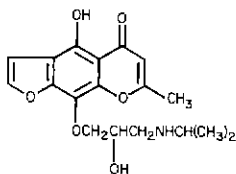


*Proposed International
Nonproprietary Name (Latin, English)*

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

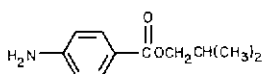
iprocrololum
iprocrolol

4-hydroxy-9-[2-hydroxy-3-(isopropylamino)propoxy]-7-methyl-5H-
furo[3,2-g][1]benzopyran-5-one
C₁₈H₂₁NO₆ 37855-80-4



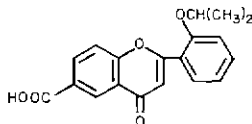
isobutamenum
isobutamben

isobutyl *p*-aminobenzoate
C₁₁H₁₅NO₂ 94-14-4



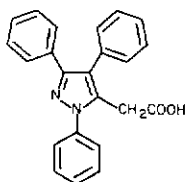
isocromilum
isocromil

2-(*o*-isopropoxyphenyl)-4-oxo-4*H*-1-benzopyran-6-carboxylic acid
C₁₉H₁₆O₅ 57009-15-1



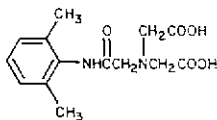
isofezolacum
isofezolac

1,3,4-triphenylpyrazole-5-acetic acid
C₂₃H₁₈N₂O₂ 50270-33-2



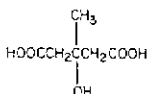
lidofeninum
lidofenin

[[[(2,6-xilylcarbonyl)methyl]imino]diacetic acid
C₁₄H₁₈N₂O₅ 59160-29-1



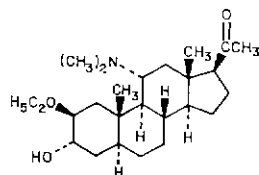
meglutolum
meglutol

3-hydroxy-3-methylglutaric acid
C₆H₁₀O₅ 503-49-1



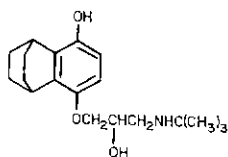
minaxolonum
minaxolone

11 α -(dimethylamino)-2 β -ethoxy-3 α -hydroxy-5 α -pregnan-20-one
C₂₅H₄₃NO₃ 62571-87-3



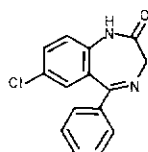
nafetololum
nafetolol

1-(*tert*-butylamino)-3-[(1,2,3,4-tetrahydro-8-hydroxy-1,4-ethanonaphthalen-5-yl)oxy]-2-propanol
C₁₉H₂₉NO₃ 42050-23-7



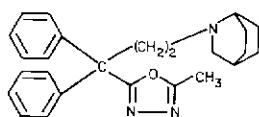
nordazepamum
nordazepam

7-chloro-1,3-dihydro-5-phenyl-2*H*-1,4-benzodiazepin-2-one
C₁₅H₁₁ClN₂O 1088-11-5



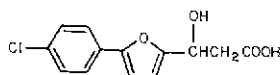
nufenoxolum
nufenoxoie

2-[3-(5-methyl-1,3,4-oxadiazol-2-yl)-3,3-diphenylpropyl]-2-azabicyclo-[2.2.2]octane
C₂₅H₂₉N₃O 57726-65-5



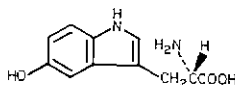
orpanoxinum
orpanoxin

5-(*p*-chlorophenyl)-2-furanhydracrylic acid
C₁₃H₁₁ClO₄ 60653-25-0



oxitriptanum
oxitriptan

5-hydroxy-L-tryptophan
C₁₁H₁₂N₂O₃ 4350-09-8

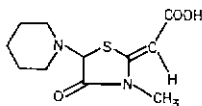


Proposed International
Nonproprietary Name (Latin, English)

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

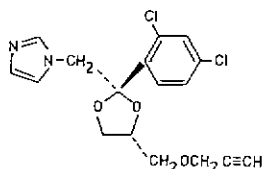
ozolinonum
ozolinone

(Z)-3-methyl-4-oxo-5-piperidino- $\Delta^{2,a}$ -thiazolidineacetic acid
C₁₇H₁₆N₂O₃S 56784-39-5



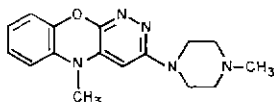
parconazolom
parconazole

cis-1-[[2-(2,4-dichlorophenyl)-4-[(2-propynyloxy)methyl]-1,3-dioxolan-2-yl]methyl]imidazole
C₁₇H₁₆Cl₂N₂O₃ 61400-59-7



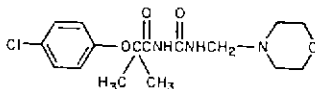
pipofezinum
pipofezine

5-methyl-3-(4-methyl-1-piperazinyl)-5*H*-pyridazo[3,4-*b*][1,4]benzoxazine
C₁₆H₁₉N₅O 24886-52-0



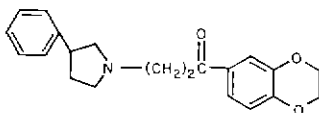
plafibridum
plafibride

1-[2-(*p*-chlorophenoxy)-2-methylpropionyl]-3-(morpholinomethyl)urea
C₁₆H₂₂ClN₃O₄ 63394-05-8



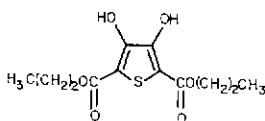
proroxanum
proroxan

1-(1,4-benzodioxan-6-yl)-3-(3-phenyl-1-pyrrolidinyl)-1-propanone
C₂₁H₂₃NO₃ 33743-96-3



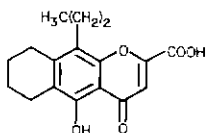
protiofatum
protiofate

dipropyl 3,4-dihydroxy-2,5-thiophenedicarboxylate
C₁₂H₁₆O₆S 58416-00-5



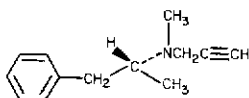
proxicromilum
proxicromil

6,7,8,9-tetrahydro-5-hydroxy-4-oxo-10-propyl-4*H*-naphtho[2,3-*b*]pyran-2-carboxylic acid
C₁₇H₁₈O₅ 60400-92-2



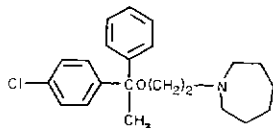
selegilinum
selegiline

(*R*)-(-)-*N*, α -dimethyl-*N*-2-propynylphenethylamine
C₁₃H₁₇N 14611-51-9



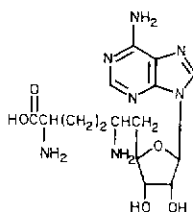
setastinum
setastine

1-[2-[(*p*-chloro- α -methyl- α -phenylbenzyl)oxy]ethyl]hexahydro-1*H*-azepine
C₂₂H₂₈ClNO 64294-95-7



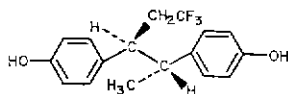
sinefunginum
sinefungin

6,9-diamino-1-(6-amino-9*H*-purin-9-yl)-1,5,6,7,8,9-hexadeoxy- β -D-ribo-decofuranuronic acid
C₁₅H₂₃N₇O₅ 58944-73-3



terfluranolum
terfluranol

4,4'-[(1*R*,2*S*)-1-methyl-2-(2,2,2-trifluoroethyl)ethylene]diphenol
C₁₇H₁₇F₃O₂ 64396-09-4

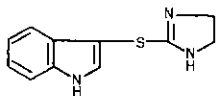


Proposed International
Nonproprietary Name (Latin, English)

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

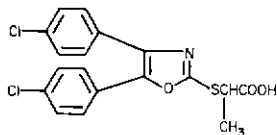
tinazolinum
tinazoline

3-(2-imidazolylthio)indole
C₁₁H₁₁N₃S 62882-99-9



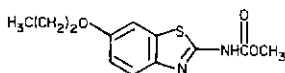
tioxaprofenum
tioxaprofen

2-[[4,5-bis(p-chlorophenyl)-2-oxazolyl]thio]propionic acid
C₁₈H₁₃Cl₂NO₃S 40198-53-6



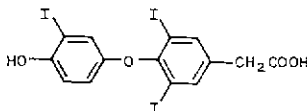
tioxidazolium
tioxidazole

methyl 6-propoxy-2-benzothiazolecarbamate
C₁₂H₁₄N₂O₃S 61570-90-9



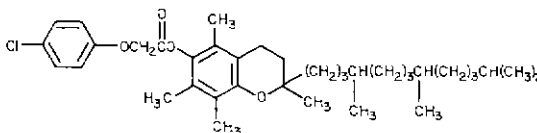
tiratricolum
tiratricol

[4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl]acetic acid
C₁₄H₉I₃O₄ 51-24-1



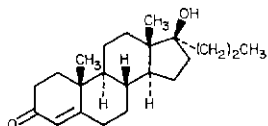
tocofenoxatum
tocofenoxate

all-rac-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-6-chromanyl
(*p*-chlorophenoxy)acetate
C₃₇H₅₅ClO₄ 61343-44-0



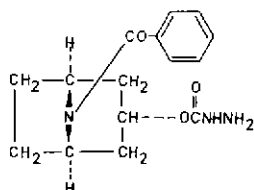
topteronum
topterone

17 β -hydroxy-17-propylandroster-4-en-3-one
C₂₂H₃₄O₂ 60607-35-4



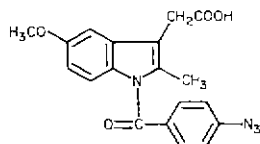
tropabazatum
tropabazate

phenyl 3 α -hydroxy-8-azabicyclo[3.2.1]octane-8-carboxylate carbazate (ester)
C₁₅H₁₉N₃O₄ 64294-94-6



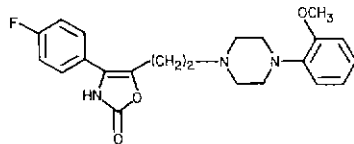
zidometacinum
zidometacin

1-(*p*-azidobenzoyl)-5-methoxy-2-methylindole-3-acetic acid
C₁₉H₁₆N₄O₄ 62851-43-8



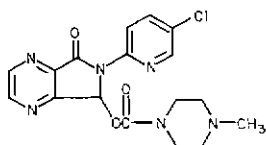
zoloperonum
zoloperone

4-(*p*-fluorophenyl)-5-[2-[4-(*o*-methoxyphenyl)-1-piperazinyl]ethyl]-4-oxazolin-2-one
C₂₂H₂₄FN₃O₃ 52867-74-0



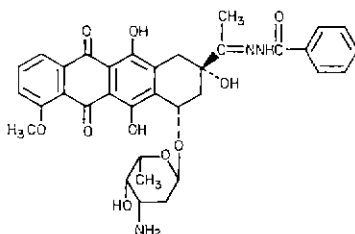
zopiclonum
zopiclone

4-methyl-1-piperazinecarboxylic acid ester with 6-(5-chloro-2-pyridyl)-6,7-dihydro-7-hydroxy-5*H*-pyrrolo[3,4-*b*]pyrazin-5-one
C₁₇H₁₇ClN₆O₃ 43200-80-2



zorubicinum
zorubicin

benzoic acid hydrazide, 3-hydrazone with daunorubicin
C₃₄H₃₅N₃O₁₀ 54083-22-6



AMENDMENTS

PREVIOUS LISTS

International Nonproprietary Names for Pharmaceutical Substances

Cumulative List No. 3, 1971

p. 39 colestipolum
colestipol

Replace the description by: copolymer of diethylenetriamine and
1-chloro-2,3-epoxypropane

International Nonproprietary Names (INN) for Pharmaceutical Substances:

Cumulative List No. 5, 1977

In the following cases the reference to List 16 of recommended INN should be replaced by an asterisk:

bufrolinum
carbantelum
carteololum
cefatrizinum
dimeticonum
elanzepinum

fenofibratum
glutaurinum
nadololum
norgestimatum
prostalenum
trilostanum

p. 121 Delete
medigoxinum 23 *

Insert
metildigoxinum 3617

p. 209 Delete
trimopamum 3416

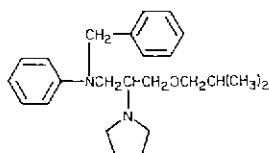
Insert
trepipamum 3818

Vol. 27, No. 9

Proposed International Nonproprietary Names (Prop. INN): List 30

p. 383 bepridilum
bepridil

Replace chemical information and CAS registry No. by the following:
β-[(2-methylpropoxy)methyl]-N-phenyl-N-(phenylmethyl)-1-
pyrrolidineethanamine
C₂₄H₃₄N₂O 64706-54-3



Supplement to Vol. 29, No. 3

Proposed International Nonproprietary Names (Prop. INN): List 33

- p. 10 dextranomerum *Replace chemical name by the following:* dextran 2,3-dihydroxypropyl
dextranomer 2-hydroxy-1,3-propanediyl ether

Supplement to Vol. 31, No. 9

Proposed International Nonproprietary Names (Prop. INN): List 38

- p. 2 *delete* *insert*
azacortum deflazacortum
azacort deflazacort
- p. 4 betamicinum *Replace the center-most ring in the graphic formula by a cyclohexane ring*
betamicin
- p. 5 canbisolum *Replace (CH₂)₃ in the graphic formula by (CH₃)₂*
canbisol
- cetocyclinum *In the graphic formula add double bond between positions 2 and 3*
cetocycline
- p. 14 pentafluranolum *Replace CAS registry No. by : 65634-39-1*
pentafluranol

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 sub-

stance 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	-azéпам
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	-réline
sulfa-	sulfa-	sulfa-
-terolum	-terol	-térol
-tizidium	-tizide	-tizide
-verinum	-verine	-vérine

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.

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.—.