

# 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,<sup>1</sup> 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 42 Prop. INN not later than 31 January 1980.

*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.*

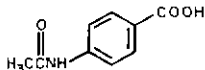
## Proposed International Nonproprietary Names (Prop. INN): List 42<sup>2</sup>

Proposed International  
Nonproprietary Name (Latin, English)

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

acedobenum  
acedoben

*p*-acetamidobenzoic acid  
C<sub>9</sub>H<sub>9</sub>NO<sub>3</sub> 556-08-1



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 21 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.

<sup>1</sup> See Annex 1, p. 18.

<sup>2</sup> Other lists of proposed international nonproprietary names can be found in *Chron. Wld Hlth Org.*, 1953, 7, 299; 1954, 8, 216, 313; 1956, 10, 28; 1957, 11, 231; 1958, 12, 102; *WHO Chronicle*, 1959, 13, 105, 152, 1960, 14, 168, 244; 1961, 15, 314; 1962, 16, 385; 1963, 17, 389, 1964, 18, 433; 1965, 19, 446; 1966, 20, 216; 1967, 21, 70, 478; 1968, 22,

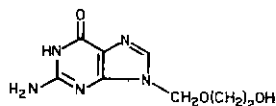
112, 407; 1969, 23, 183, 418; 1970, 24, 119, 413; 1971, 25, 123, 415; 1972, 26, 121, 414; 1973, 27, 120, 330; 1974, 28, 133; supplements to *WHO Chronicle*, 1974, Vol. 28, No. 9, 1975, Vol. 29, No. 3, No. 9; 1976, Vol. 30, No. 3, No. 9; 1977, Vol. 31, No. 3, No. 9; 1978, Vol. 32, No. 3, No. 9; 1979, Vol. 33, No. 3.

Lists or recommended international

nonproprietary names were published in *Chron. Wld Hlth Org.*, 1955, 9, 185; *WHO Chronicle*, 1959, 13, 106, 463; 1962, 16, 101, 1965, 19, 165, 206, 249; 1966, 20, 421, 1967, 21, 538; 1968, 22, 463, 1969, 23, 490; 1970, 24, 526, 1971, 25, 476; 1972, 26, 476; 1973, 27, 453; supplements to *WHO Chronicle*, 1974, Vol. 28, No. 10; 1975, Vol. 29, No. 10; 1976, Vol. 30, No. 10; 1977, Vol. 31, No. 10; 1978, Vol. 32, No. 10.

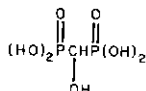
aciclovirum  
aciclovir

9-[(2-hydroxyethoxy)methyl]guanine  
 $C_8H_{11}N_5O_3$  59277-89-3



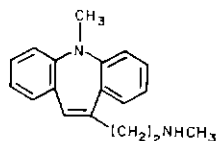
acidum oxidronicum  
oxidronic acid

(hydroxymethylene)disphosphonic acid  
 $CH_2O_7P_2$  15468-10-7



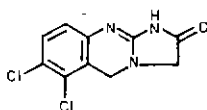
amezepinum  
amezepine

5-methyl-10-[2-(methylamino)ethyl]-5*H*-dibenz[*b,f*]azepine  
 $C_{18}H_{20}N_2$  60575-32-8



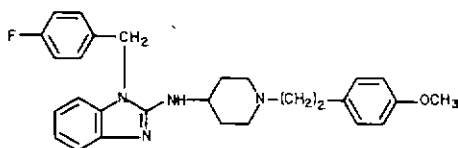
anagrelidum  
anagrelide

6,7-dichloro-1,5-dihydroimidazo[2,1-*b*]quinazolin-2(3*H*)-one  
 $C_{10}H_7Cl_2N_3O$  68475-42-3



astemizolum  
astemizole

1-(*p*-fluorobenzyl)-2-[[1-(*p*-methoxyphenethyl)-4-piperidyl]amino]benzimidazole  
 $C_{28}H_{31}FN_4O$  68844-77-9

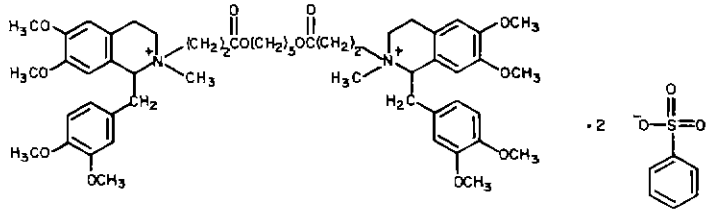


Proposed International  
Nonproprietary Name (Latin, English)

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

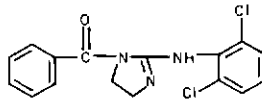
atracurii besilas  
atracurium besilate

2-(2-carboxyethyl)-1,2,3,4-tetrahydro-6,7-dimethoxy-2-methyl-1-veratrylisoquin-  
olinium benzenesulfonate, pentamethylene ester  
 $C_{25}H_{42}N_2O_{18}S_2$  64228-81-5



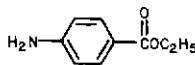
benclonidinum  
benclonidine

1-benzoyl-2-(2,6-dichloroanilino)-2-imidazoline  
 $C_{16}H_{13}Cl_2N_3O$  57647-79-7



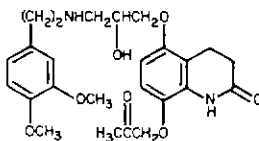
benzocainum  
benzocaine

ethyl *p*-aminobenzoate  
 $C_9H_{11}NO_2$  94-09-7



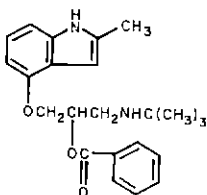
bometololum  
bometolol

(±)-8-(acetyloxy)-5-[3-[(3,4-dimethoxyphenethyl)amino]-2-hydroxy-  
propoxy]-3,4-dihydrocarbostyryl  
 $C_{25}H_{32}N_2O_7$  65008-93-7



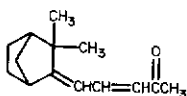
bopindololum  
bopindolol

(±)-1-(*tert*-butylamino)-3-[(2-methylindol-4-yl)oxy]-2-propanol benzoate (ester)  
C<sub>23</sub>H<sub>28</sub>N<sub>2</sub>O<sub>3</sub> 62658-63-3



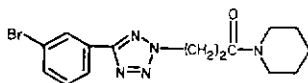
bornelonum  
bornelone

5-(3,3-dimethyl-2-norbornylidene-3-penten-2-one)  
C<sub>14</sub>H<sub>20</sub>O 2266-11-1



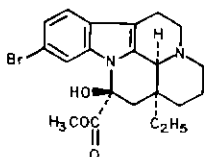
broperamolium  
broperamole

1-[3-[5-(*m*-bromophenyl)-2*H*-tetrazol-2-yl]-propionyl]piperidine  
C<sub>15</sub>H<sub>18</sub>BrN<sub>5</sub>O 33144-79-5



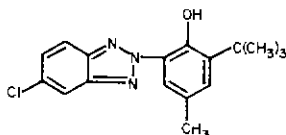
brovincaminum  
brovincamine

11-brovincamine  
C<sub>21</sub>H<sub>25</sub>BrN<sub>2</sub>O<sub>3</sub> 57475-17-9



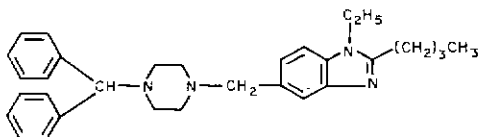
bumetrizolum  
bumetrizole

2-*tert*-butyl-6-(5-chloro-2*H*-benzotriazol-2-yl)-*p*-cresol  
C<sub>17</sub>H<sub>18</sub>ClN<sub>3</sub>O 3896-11-5



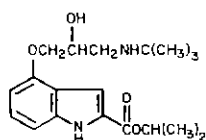
buterizinum  
buterizine

2-butyl-5-[[4-(diphenylmethyl)-1-piperazinyl]methyl]-1-ethylbenzimidazole  
C<sub>31</sub>H<sub>38</sub>N<sub>4</sub> 68741-18-4



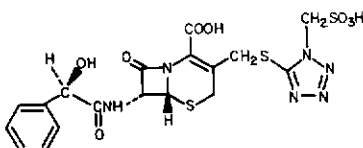
carpindololum  
carpindolol

isopropyl (±)-4-[3-(*tert*-butylamino)-2-hydroxypropoxy]indole-2-carboxylate  
C<sub>19</sub>H<sub>28</sub>N<sub>2</sub>O<sub>4</sub> 39731-05-0



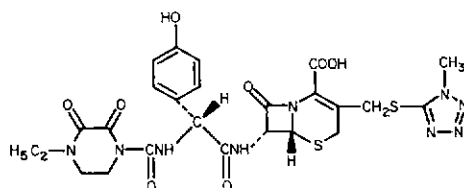
cefonicidum  
cefonicid

(6*R*,7*R*)-7-[(*R*)-mandelamido]-8-oxo-3-[[[1-(sulfomethyl)-1*H*-tetrazol-5-yl]thio]methyl]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
C<sub>17</sub>H<sub>18</sub>N<sub>6</sub>O<sub>6</sub>S<sub>2</sub> 61270-58-4



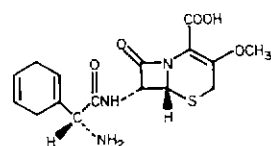
cefoperazonum  
cefoperazone

(6*R*,7*R*)-7-[(*R*)-2-(4-ethyl-2,3-dioxo-1-piperazinecarboxamido)-2-(*p*-hydroxyphenyl)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<sub>25</sub>H<sub>27</sub>N<sub>6</sub>O<sub>6</sub>S<sub>2</sub> 62893-19-0



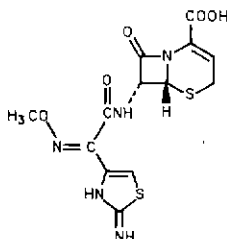
cefroxadinum  
cefroxadine

(6*R*,7*R*)-7-[(*R*)-2-amino-2-(1,4-cyclohexadien-1-yl)acetamido]-3-methoxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
C<sub>16</sub>H<sub>19</sub>N<sub>3</sub>O<sub>5</sub>S 51762-05-1



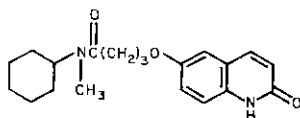
ceftizoximum  
ceftizoxime

(6*R*,7*R*)-7-[2-(2-amino-4-thiazolyl)glyoxylamido]-8-oxo-5-thia-1-azabi-  
cyclo[4.2.0]oct-2-ene-2-carboxylic acid 7<sup>2</sup>-(*Z*)-(O-methyloxime)  
C<sub>13</sub>H<sub>13</sub>N<sub>5</sub>O<sub>5</sub>S<sub>2</sub> 68401-81-0



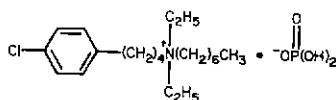
cilostamidum  
cilostamide

*N*-cyclohexyl-4-[(1,2-dihydro-2-oxo-6-quinolyl)oxy]-*N*-methylbutyramide  
C<sub>20</sub>H<sub>28</sub>N<sub>2</sub>O<sub>3</sub> 68550-75-4



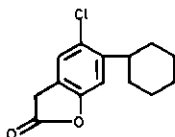
clofilii phosphas  
clofilium phosphate

[4-(*p*-chlorophenyl)butyl]diethylheptylammonium phosphate (1:1)  
C<sub>21</sub>H<sub>39</sub>ClNO<sub>4</sub>P 68379-03-3



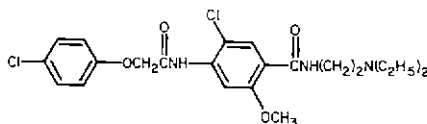
clofuracum  
clofurac

5-chloro-6-cyclohexyl-2(3*H*)-benzofuranone  
C<sub>14</sub>H<sub>15</sub>ClO<sub>2</sub> 60986-89-2



cloxacepridum  
cloxacepride

5-chloro-4-[2-(*p*-chlorophenoxy)acetamido]-*N*-[2-(diethylamino)ethyl]-*o*-  
anisamide  
C<sub>22</sub>H<sub>27</sub>Cl<sub>2</sub>N<sub>3</sub>O<sub>4</sub> 65569-29-1

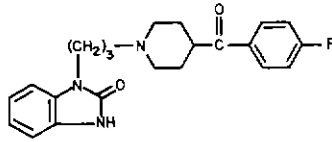


Proposed International  
Nonproprietary Name (Latin, English)

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

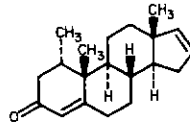
declenperonum  
declenperone

1-[3-[4-(*p*-fluorobenzoyl)piperidino]propyl]-2-benzimidazolinone  
C<sub>22</sub>H<sub>24</sub>FN<sub>3</sub>O<sub>2</sub> 63388-37-4



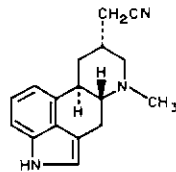
delanteronum  
delanterone

1 $\alpha$ -methylandrosta-4,16-dien-3-one  
C<sub>20</sub>H<sub>24</sub>O 63014-96-0



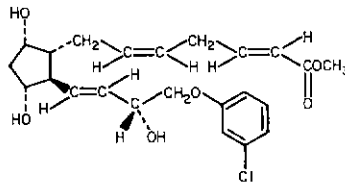
delergotrilum  
delergotriole

6-methylergoline-8 $\alpha$ -acetonitrile  
C<sub>17</sub>H<sub>19</sub>N<sub>3</sub> 59091-65-5



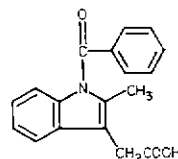
delprostenatum  
delprostenate

methyl (2*E*,5*Z*)-7-[(1*R*,2*R*,3*R*,5*S*)-2-[(*E*)-(3*R*)-4-(*m*-chloro-phenoxy)-3-hydroxy-1-butenyl]-3,5-dihydroxycyclopentyl]-2,5-heptadienoate  
C<sub>23</sub>H<sub>29</sub>ClO<sub>6</sub> 62524-99-6



demetacinum  
demetacin

1-benzoyl-2-methylindole-3-acetic acid  
C<sub>16</sub>H<sub>15</sub>NO<sub>3</sub> 16401-80-2

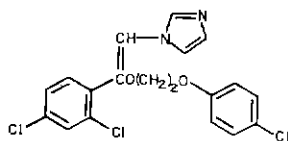


Proposed International  
Nonproprietary Name (Latin, English)

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

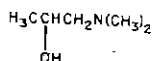
democonazolom  
democonazole

(*E*)-1-[2,4-dichloro- $\beta$ -[2-(*p*-chlorophenoxy)ethoxy]styryl]imidazole  
C<sub>19</sub>H<sub>15</sub>Cl<sub>3</sub>N<sub>2</sub>O<sub>2</sub> 70161-09-0



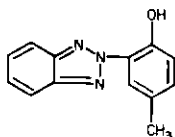
dimepranolom  
dimepranol

( $\pm$ )-1-(dimethylamino)-2-propanol  
C<sub>5</sub>H<sub>13</sub>NO 53657-16-2



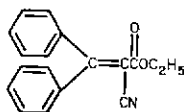
drometrizolum  
drometrizole

2-(2*H*-benzotriazol-2-yl)-*p*-cresol  
C<sub>13</sub>H<sub>11</sub>N<sub>3</sub>O 2440-22-4



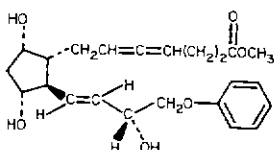
etocrilenum  
etocrilene

ethyl 2-cyano-3,3-diphenylacrylate  
C<sub>18</sub>H<sub>15</sub>NO<sub>2</sub> 5232-99-5



fenprostalenum  
fenprostalene

methyl ( $\pm$ )-7-[(1*R*\*,2*R*\*,3*R*\*,5*S*\*)-3,5-dihydroxy-2-[(*E*)-(3*R*\*)-3-hydroxy-4-  
phenoxy-1-butenyl]-cyclopentyl]-4,5-heptadienoate  
C<sub>23</sub>H<sub>30</sub>O<sub>6</sub> 69381-94-8

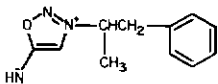


Proposed International  
Nonproprietary Name (Latin, English)

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

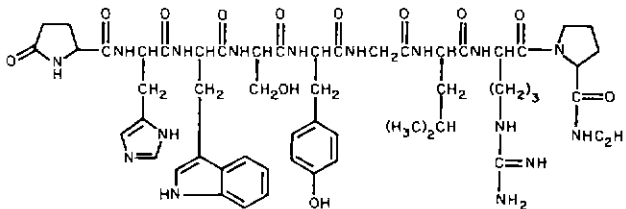
feprosidinum  
feprosidine

3-( $\alpha$ -methylphenethyl)sydnone imine  
 $C_{11}H_{13}N_3O$  22293-47-6



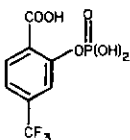
fertirelinum  
fertirelin

5-oxo-L-prolyl-L-histidyl-L-tryptophyl-L-seryl-L-tyrosylglycyl-L-leucyl-L-arginyl-N-ethyl-L-prolinamide  
 $C_{55}H_{76}N_{16}O_{12}$  38234-21-8



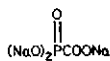
flufosalum  
flufosal

$\alpha, \alpha, \alpha$ -trifluoro-2,4-cresotic acid dihydrogen phosphate  
 $C_8H_6F_3O_8P$  65708-37-4



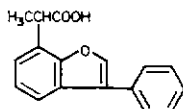
foscarnetum natrium  
foscarnet sodium

phosphonoformic acid trisodium salt  
 $CNa_3O_5P$  63585-09-1



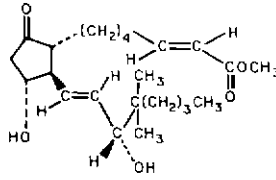
furaprofenum  
furaprofen

( $\pm$ )- $\alpha$ -methyl-3-phenyl-7-benzofuranacetic acid  
 $C_{17}H_{14}O_3$  67700-30-5



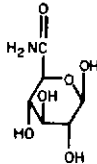
gemeprostum  
gemeprost

methyl (*E*)-7-[(1*R*,2*R*,3*R*)-3-hydroxy-2-[(*E*)-(3*R*)-3-hydroxy-4,4-dimethyl-1-octenyl]-5-oxocyclopentyl]-2-heptenoate  
C<sub>23</sub>H<sub>38</sub>O<sub>5</sub> 64318-79-2



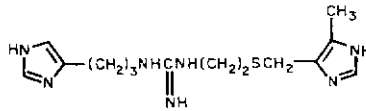
glucuronamidum  
glucuronamide

$\beta$ -D-glucopyranuronamide  
C<sub>6</sub>H<sub>11</sub>NO<sub>6</sub> 61914-43-0



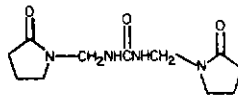
impromidinum  
impromidine

1-(3-imidazol-4-ylpropyl)-3-[2-[[5-methylimidazol-4-yl)methyl]thio]ethyl]guanidine  
C<sub>14</sub>H<sub>23</sub>N<sub>7</sub>S 55273-05-7



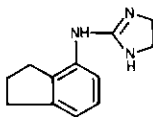
imuracetamum  
imuracetam

1,3-bis[(2-oxo-1-pyrrolidinyl)methyl]urea  
C<sub>11</sub>H<sub>18</sub>N<sub>4</sub>O<sub>3</sub> 67542-41-0



indanazolinum  
indanazoline

2-(4-indanylamino)-2-imidazoline  
C<sub>12</sub>H<sub>15</sub>N<sub>3</sub> 40507-78-6

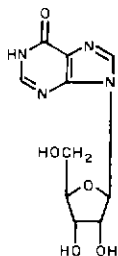


Proposed International  
Nonproprietary Name (Latin, English)

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

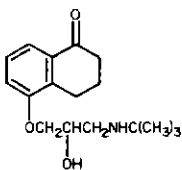
inosinum  
inosine

inosine or 1,9-dihydro-9-β-D-ribofuranosyl-6H-purin-6-one  
C<sub>10</sub>H<sub>12</sub>N<sub>4</sub>O<sub>5</sub> 58-63-9



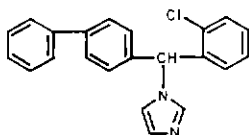
levobunololum  
levobunolol

(-)-5-[3-(*tert*-butylamino)-2-hydroxypropoxy]-3,4-dihydro-1(2*H*)-naphthalenone  
C<sub>17</sub>H<sub>25</sub>NO<sub>3</sub> 47141-42-4



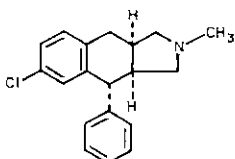
lombazolum  
lombazole

(±)-1-(α-4-biphenyl-*o*-chlorobenzyl)imidazole  
C<sub>22</sub>H<sub>17</sub>ClN<sub>2</sub> 60628-98-0



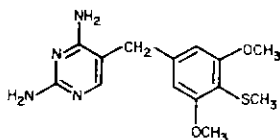
losindolum  
losindole

(±)-(3α,4α,9α)-6-chloro-3a,4,9,9a-tetrahydro-2-methyl-4-phenylbenz[*f*]isoindoline  
C<sub>19</sub>H<sub>20</sub>ClN 69175-77-5



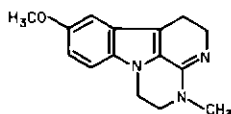
metioprimum  
metioprím

2,4-diamino-5-[3,5-dimethoxy-4-(methylthio)benzyl]pyrimidine  
C<sub>14</sub>H<sub>16</sub>N<sub>4</sub>O<sub>2</sub>S 68902-57-8



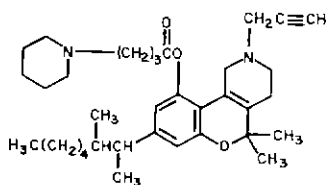
metralindolum  
metralíndole

2,4,5,6-tetrahydro-9-methoxy-4-methyl-1*H*-3,4,6a-triazafluoranthene  
C<sub>15</sub>H<sub>17</sub>N<sub>3</sub>O 54188-38-4



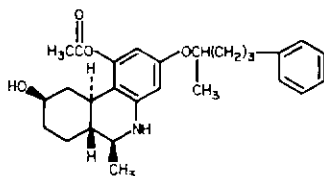
nabitanum  
nabítan

(±)-8-(1,2-dimethylheptyl)-1,3,4,5-tetrahydro-5,5-dimethyl-2-(2-propynyl)-  
2*H*-[1]benzopyrano[4,3-*c*]pyridin-10-yl 1-piperidinebutyrate  
C<sub>35</sub>H<sub>52</sub>N<sub>2</sub>O<sub>3</sub> 66556-74-9



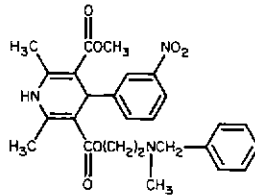
nantradolum  
nantradol

(±)-5,6,6*a*β,7,8,9*α*,10,10*α*-octahydro-6β-methyl-3-(1-methyl-4-phenyl-  
butoxy)-1,9-phenanthridinediol 1-acetate  
C<sub>27</sub>H<sub>35</sub>NO<sub>4</sub> 65511-41-3



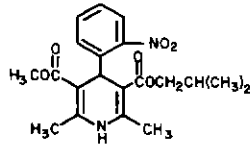
nicardipinum  
nicardipine

2-(benzylmethylamino)ethyl methyl 1,4-dihydro-2,6-dimethyl-4-(*m*-nitrophenyl)-3,5-pyridinedicarboxylate  
 $C_{26}H_{29}N_3O_6$  55985-32-5



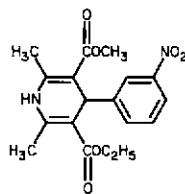
isoldipinum  
isoldipine

isobutyl methyl 1,4-dihydro-2,6-dimethyl-4-(*o*-nitrophenyl)-3,5-pyridinedicarboxylate  
 $C_{20}H_{24}N_2O_6$  63675-72-9



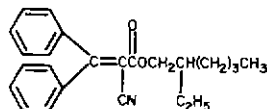
nitrendipinum  
nitrendipine

ethyl methyl 1,4-dihydro-2,6-dimethyl-4-(*m*-nitrophenyl)-3,5-pyridinedicarboxylate  
 $C_{18}H_{20}N_2O_6$  39562-70-4



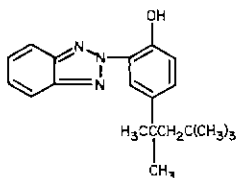
octocrilenum  
octocrilene

2-ethylhexyl 2-cyano-3,3-diphenylacrylate  
 $C_{24}H_{27}NO_2$  6197-30-4



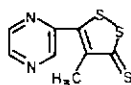
octrizolum  
octrizole

2-(2*H*-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol  
C<sub>20</sub>H<sub>25</sub>N<sub>3</sub>O 3147-75-9



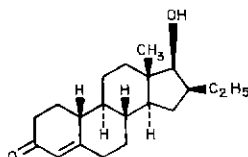
oltiprazum  
oltipraz

4-methyl-5-(pyrazinyl)-3*H*-1,2-dithiole-3*H*-thione  
C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>S<sub>3</sub> 64224-21-1



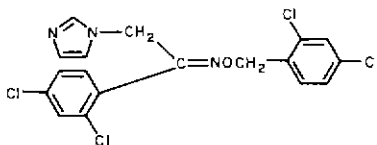
oxendolonum  
oxendolone

16β-ethyl-17β-hydroxyestr-4-en-3-one  
C<sub>26</sub>H<sub>40</sub>O<sub>2</sub> 33765-68-3



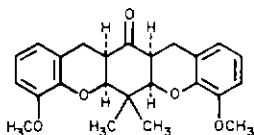
oxiconazolum  
oxiconazole

2',4'-dichloro-2-imidazol-1-ylacetophenone (*Z*)-[*O*-(2,4-dichlorobenzyl)oxime]  
C<sub>18</sub>H<sub>13</sub>Cl<sub>4</sub>N<sub>3</sub>O 64211-45-6



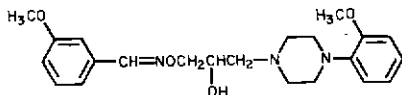
pentomonum  
pentomone

6,6α,12,12α,13α,14-hexahydro-4,8-dimethoxy-6,6-dimethyl-5α*H*,13*H*-  
[1]benzopyrano[3,2-*b*]-xanthen-13-one  
C<sub>24</sub>H<sub>26</sub>O<sub>5</sub> 67102-87-8



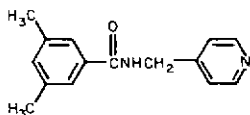
peradoximum  
peradoxime

*m*-anisaldehyde *O*-[2-hydroxy-3-[4-(*o*-methoxyphenyl)-1-piperazinyl]propyl]  
oxime  
C<sub>22</sub>H<sub>29</sub>N<sub>3</sub>O<sub>4</sub> 67254-81-3



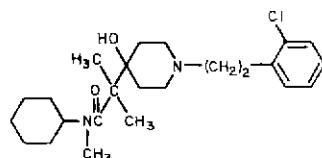
picobenzidum  
picobenzide

3,5-dimethyl-*N*-(4-pyridylmethyl)benzamide  
C<sub>15</sub>H<sub>16</sub>N<sub>2</sub>O 51832-87-2



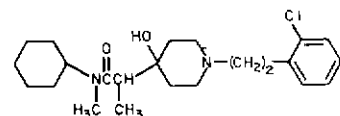
pipradimadolum  
pipradimadol

1-(*o*-chlorophenethyl)-*N*-cyclohexyl-4-hydroxy-*N*, $\alpha$ , $\alpha$ -trimethyl-4-piperidine-  
acetamide  
C<sub>24</sub>H<sub>37</sub>ClN<sub>2</sub>O<sub>2</sub> 68797-29-5



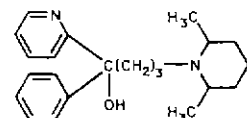
pipramadolum  
pioramadol

( $\pm$ )-1-(*o*-chlorophenethyl)-*N*-cyclohexyl-4-hydroxy-*N*, $\alpha$ -dimethyl-4-piperidine-  
acetamide  
C<sub>23</sub>H<sub>35</sub>ClN<sub>2</sub>O<sub>2</sub> 55313-67-2



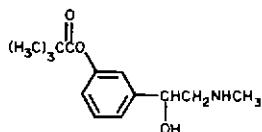
pirmenolum  
pirmenol

( $\pm$ )-*cis*-2,5-dimethyl- $\alpha$ -phenyl- $\alpha$ -2-pyridyl-1-piperidinebutanol  
C<sub>22</sub>H<sub>30</sub>N<sub>2</sub>O 68252-19-7



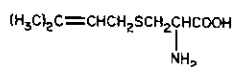
pivenfrinum  
pivenfrine

(±)-*m*-[1-hydroxy-2-(methylamino)ethyl]phenyl pivalate  
C<sub>14</sub>H<sub>21</sub>NO<sub>3</sub> 67577-23-5



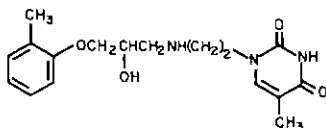
prenisteinum  
prenisteine

3-[[3-methyl-2-butenyl]thio]-L-alanine  
C<sub>8</sub>H<sub>15</sub>NO<sub>2</sub>S 5287-46-7



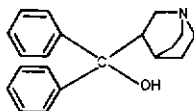
primidololum  
primidolol

1-[2-[[2-hydroxy-3-(*o*-tolylloxy)propyl]amino]ethyl]-thymine  
C<sub>17</sub>H<sub>23</sub>N<sub>3</sub>O<sub>4</sub> 67227-55-8



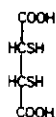
quifenadinum  
quifenadine

α,α-diphenyl-3-quinuclidinemethanol  
C<sub>20</sub>H<sub>23</sub>NO 10447-39-9



succimerum  
succimer

*meso*-2,3-dimercaptosuccinic acid  
C<sub>4</sub>H<sub>6</sub>O<sub>4</sub>S<sub>2</sub> 304-55-2

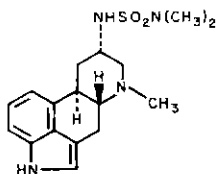


Proposed International  
Nonproprietary Name (Latin, English)

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

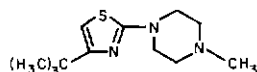
sulerginum  
sulergine

*N,N*-dimethyl-*N'*-(6-methylergolin-8 $\alpha$ -yl)sulfamide  
C<sub>17</sub>H<sub>24</sub>N<sub>4</sub>O<sub>2</sub>S 59032-40-5



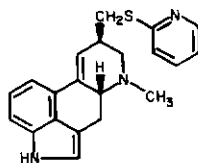
tebatizolum  
tebatizole

1-(4-*tert*-butyl-2-thiazolyl)-4-methylpiperazine  
C<sub>12</sub>H<sub>21</sub>N<sub>3</sub>S 54147-28-3



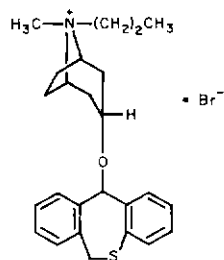
tiomerginum  
tiomergine

9,10-didehydro-6-methyl-8 $\beta$ -[[2-pyridylthio]methyl]ergoline  
C<sub>21</sub>H<sub>21</sub>N<sub>3</sub>S 57935-49-6



tipetropii bromidum  
tipetropium bromide

3 $\alpha$ -[[6,11-dihydrodibenzo[*b,e*]thiepin-11-yl]oxy]-8 $\gamma$ -propyl-1 $\alpha$ H,5 $\alpha$ H-tropanium  
bromide  
C<sub>25</sub>H<sub>32</sub>BrNOS 54376-91-9



trientinum  
trientine

triethylenetetramine  
C<sub>6</sub>H<sub>18</sub>N<sub>4</sub> 112-24-3

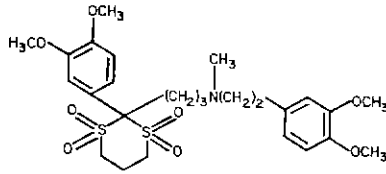
H<sub>2</sub>N(CH<sub>2</sub>)<sub>2</sub>NH(CH<sub>2</sub>)<sub>2</sub>NH(CH<sub>2</sub>)<sub>2</sub>NH<sub>2</sub> • 2HCl

Proposed International  
Nonproprietary Name (Latin, English)

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

verocaininum  
verocainine

*N*-(3,4-dimethoxyphenethyl)-2-(3,4-dimethoxyphenyl)-*N*-methyl-*m*-dithiane-2-propylamine 1,1,3,3-tetraoxide  
 $C_{28}H_{37}NO_4S_2$  57010-31-8



AMENDMENTS  
TO PREVIOUS LISTS

Cumulative List No. 5, 1977

International Nonproprietary Names (INN) for Pharmaceutical Substances

|       |                                       |                             |
|-------|---------------------------------------|-----------------------------|
| p. 82 | <i>delete</i>                         | <i>insert</i>               |
|       | ethylphenacemidum<br>ethylphenacemide | pheneturidum<br>pheneturide |

Supplement to Vol 32, No. 9

Proposed International Nonproprietary Names (Prop. INN): List 40

|      |                                |  |
|------|--------------------------------|--|
| p. 4 | <i>delete</i>                  | <i>insert</i>                                  |
|      | betaxololum<br>betaxolol       | betaxololum<br>betaxolol                       |
| p. 4 | <i>delete</i>                  | <i>insert</i>                                  |
|      | brometazepamum<br>brometazepam | metuclazepamum<br>metuclazepam                 |
| p. 5 | cefotaximum<br>cefotaxime      | <i>Replace CAS registry No. by: 63527-52-6</i> |

Supplement to Vol. 33, No. 3

Proposed International Nonproprietary Names (Prop. INN): List 41

|      |                              |                         |
|------|------------------------------|-------------------------|
| p. 9 | <i>delete</i>                | <i>insert</i>           |
|      | naftifunginum<br>naftifungin | naftifinum<br>naftifine |

## 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*<sup>1</sup> 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*.<sup>1</sup>

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*.<sup>1</sup>

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, 10).

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

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

1. International Nonproprietary Names (INN) should be distinctive in sound and spelling. They should not be inconveniently long and should not be liable to confusion with names in common use.

2. The INN for a substance belonging to a group of pharmacologically related substances should, where appropriate, show this relationship. Names that are likely to convey to a patient an anatomical, physiological,

pathological or therapeutic suggestion should be avoided.

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

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

4. In devising INN for acids, one-word names are preferred; their salts should be named without modifying the acid name, e.g. "oxacillin" and "oxacillin sodium"; "ibufenac" and "ibufenac sodium".

5. INN for substances which are used as salts should in general apply to the active base or the active acid. Names for different salts or esters of the same active substance should differ

only in respect of the name of the inactive acid or the inactive base.

For quaternary ammonium substances, the cation and anion should be named appropriately as separate components of a quaternary substance and not in the amine-salt style

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

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

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

8. Provided that the names suggested are in accordance with these principles, names proposed by the person discovering or first developing and marketing a pharmaceutical preparation, or names already officially in use in any country, should receive preferential consideration.

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

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

| Latin       | English   | French    |
|-------------|-----------|-----------|
| -actidum    | -actide   | -actide   |
| andr        | andr      | andr      |
| -arolum     | -arol     | -arol     |
| -azepamum   | -azepam   | -azepam   |
| bol         | bol       | bol       |
| -buzonium   | -buzone   | -buzone   |
| -inum       | -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  
 $\beta$ -adrenergic blocking agents of the propranolol group  
steroids for tropical 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 report<sup>1</sup> 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.

<sup>1</sup>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.--.