Reprinted from *WHO Chronicle*, Vol. 27, No. 9

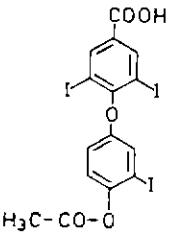
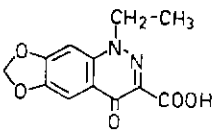
International Nonproprietary Names for Pharmaceutical Substances

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*.

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 30 [2]

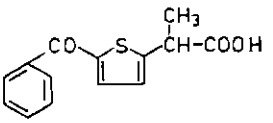
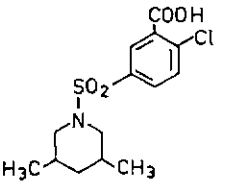
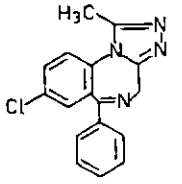
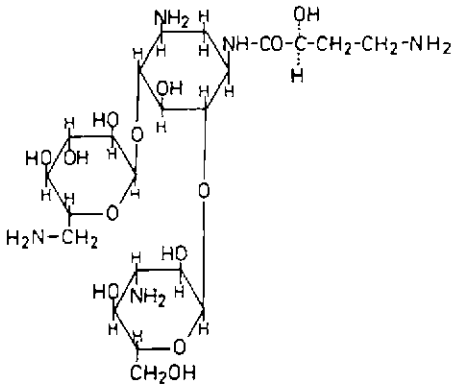
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
acetiromatum acetiromate	4-(4-hydroxy-3-iodophenoxy)-3,5-diiodobenzoic acid acetate $C_{15}H_9I_3O_5$ 
azolinicum acid azolinic acid	1-ethyl-1,4-dihydro-4-oxo[1,3]dioxolo[4,5-*g*]cinnoline-3-carboxylic acid $C_{12}H_{10}N_2O_5$ 

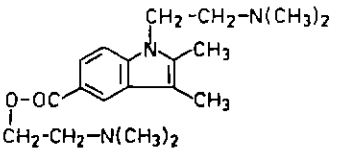
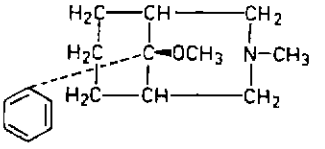
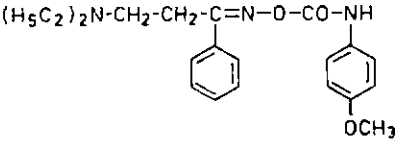
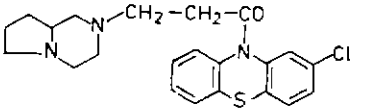
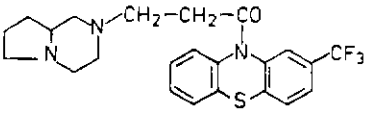
All names from lists 1–25 of proposed international nonproprietary names, together with a molecular formula index, will be found in: World Health Organization (1971) *International nonproprietary names for pharmaceutical substances: Cumulative list No. 3, 1971*, Geneva, 189 pages (price: £2.40, $6.00, or Sw. fr. 24.—).

[1] See Annex, p 23.

[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.

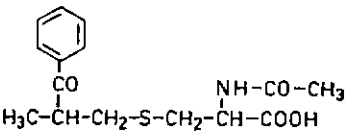
Lists of recommended international nonproprietary names were published in *Chron. Wld Hlth Org.*, 1955, 9, 185; *WHO Chronicle*, 1959, 13, 106, 463; 1962, 16, 101; 1965, 19, 165, 206, 249; 1966, 20, 421; 1967, 21, 538; 1968, 22, 463; 1969, 23, 490; 1970, 24, 526; 1971, 25, 476; 1972, 26, 476.

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
acidum tiaprofenicum tiaprofenic acid	5-benzoyl-α-methyl-2-thiopheneacetic acid $C_{14}H_{12}O_3S$ 
acidum tibricum tibric acid	2-chloro-5-[(3,5-dimethylpiperidino)sulfonyl]benzoic acid $C_{14}H_{18}ClNO_4S$ 
alprazolamum alprazolam	8-chloro-1-methyl-6-phenyl-4*H*-*s*-triazolo[4,3-*a*][1,4]benzodiazepine $C_{17}H_{13}ClN_4$ 
amikacinum amikacin	*O*-3-amino-3-deoxy-α-D-glucopyranosyl(1→4)-*O*-[6-amino-6-deoxy-α-D-glucopyranosyl(1→6)]-*N*^{3}-(4-amino-L-2-hydroxybutyryl)-2-deoxy-L-streptamine $C_{22}H_{43}N_5O_{13}$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
amindocatum amindocate	2-(dimethylamino)ethyl 1-[2-(dimethylamino)ethyl]-2,3-dimethylindole-5-carboxylate $C_{19}H_{29}N_3O_2$ 
anazocinum anazocine	9-*syn*-methoxy-3-methyl-9-phenyl-3-azabicyclo[3.3.1]nonane $C_{16}H_{23}NO$ 
anidoximum anidoxime	3-(diethylamino)propiophenone *O*-[(*p*-methoxyphenyl)carbamoyl]oxime $C_{21}H_{27}N_3O_3$ 
azaclorzinum azaclorzine	2-chloro-10-[3-(hexahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl)propionyl]-phenothiazine $C_{22}H_{24}ClN_3OS$ 
azaftozinum azaftozine	10-[3-(hexahydropyrrolo[1,2-*a*]pyrazin-2(1*H*)-yl)propionyl]-2-(trifluoromethyl)phenothiazine $C_{23}H_{24}F_3N_3OS$ 

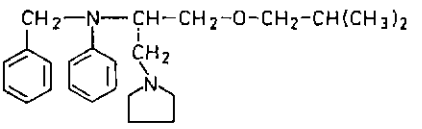
bencisteinum
bencisteine

N-acetyl-3-[(2-benzoylpropyl)thio]alanine
$C_{15}H_{19}NO_4S$



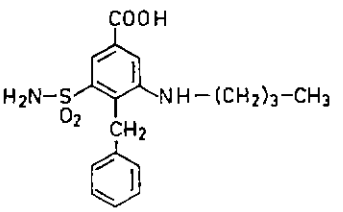
bepridilum
bepridil

1-[2-(*N*-benzylanilino)-3-isobutoxypropyl]pyrrolidine
$C_{24}H_{34}N_2O$



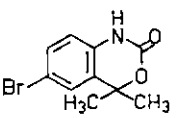
besunidum
besunide

3-(butylamino)-α-phenyl-5-sulfamoyl-*p*-toluic acid
$C_{18}H_{22}N_2O_4S$



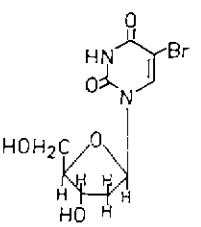
brofoxinum
brofoxine

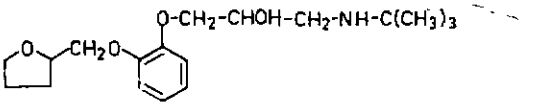
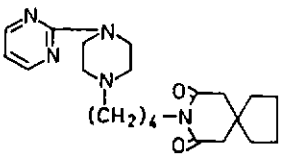
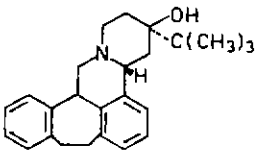
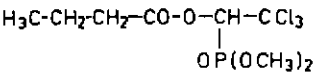
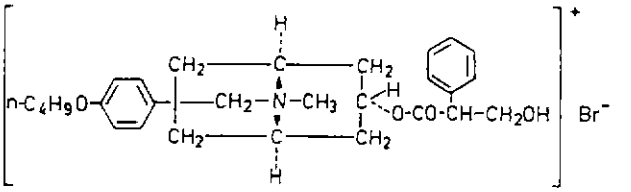
6-bromo-1,4-dihydro-4,4-dimethyl-2*H*-3,1-benzoxazin-2-one
$C_{10}H_{10}BrNO_2$



broxuridinum
broxuridine

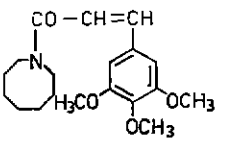
5-bromo-2'-deoxyuridine
$C_9H_{11}BrN_2O_5$



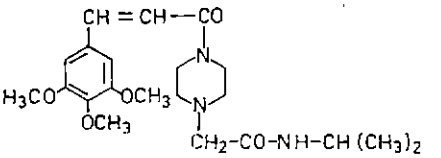
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
bufetololum bufetolol	1-(*tert*-butylamino)-3-[*o*-[(tetrahydrofurfuryl)oxy]phenoxy]-2-propanol $C_{18}H_{29}NO_4$ 
buspironum buspirone	8-[4-[4-(2-pyrimidinyl)-1-piperazinyl]butyl]-8-azaspiro[4,5]decane-7,9-dione $C_{21}H_{31}N_5O_2$ 
butaclamolum butaclamol	3α-*tert*-butyl-2,3,4,4aβ,8,9,13bα,14-octahydro-1*H*-benzo[6,7]cyclohepta-[1,2,3-*de*]pyrido[2,1-*a*]isoquinolin-3-ol $C_{25}H_{31}NO$ 
butonatum butonate	butyric acid, ester with dimethyl(2,2,2-trichloro-1-hydroxyethyl)phosphonate $C_8H_{14}Cl_3O_5P$ 
butropii bromidum butropium bromide	8-(*p*-butoxybenzyl)-3α-hydroxy-1αH,5αH-tropanium bromide (–)-tropate $C_{28}H_{38}BrNO_4$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
camazepamum camazepam	7-chloro-1,3-dihydro-3-hydroxy-1-methyl-5-phenyl-2*H*-1,4-benzodiazepin-2-one dimethylcarbamate (ester) $C_{19}H_{18}ClN_3O_3$
carfecillinum carfecillin	*N*-(2-carboxy-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]hept-6-yl)-2-phenylmalonamic acid 1-phenyl ester $C_{23}H_{22}N_2O_6S$
carmetizidum carmetizide	methyl 6-chloro-3,4-dihydro-2-methyl-7-sulfamoyl-2*H*-1,2,4-benzothiadiazine-3-carboxylate 1,1-dioxide $C_{10}H_{12}ClN_3O_6S_2$
cefamandolum cefamandole	7-D-mandelamido-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 $C_{18}H_{18}N_6O_5S_2$

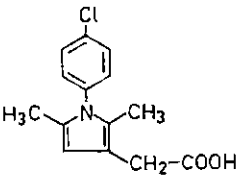
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
cinoctramidum cinoctramide	octahydro-1-(3,4,5-trimethoxycinnamoyl)azocine $C_{19}H_{27}NO_4$



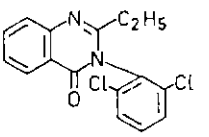
cinpropazidum propazide	*N*-isopropyl-4-(3,4,5-trimethoxycinnamoyl)-1-piperazineacetamide $C_{21}H_{31}N_3O_5$



clopiracum clopirac	1-(*p*-chlorophenyl)-2,5-dimethylpyrrole-3-acetic acid $C_{14}H_{14}ClNO_2$

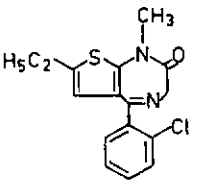


cloroqualonum cloroqualone	3-(2,6-dichlorophenyl)-2-ethyl-4(3*H*)-quinazolinone $C_{16}H_{12}Cl_2N_2O$



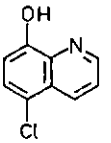
clotiazepamum
clotiazepam

5-(*o*-chlorophenyl)-7-ethyl-1,3-dihydro-1-methyl-2*H*-thieno[2,3-*e*]-1,4-diazepin-2-one
$C_{16}H_{15}ClN_2OS$



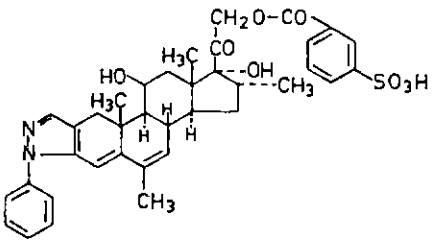
cloxiquinum
cloxiquine

5-chloro-8-quinolinol
C_9H_6ClNO



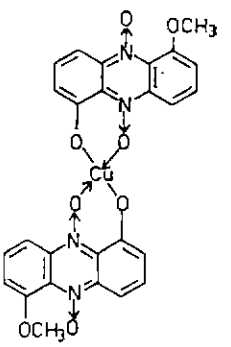
cortisuzolum
cortisuzol

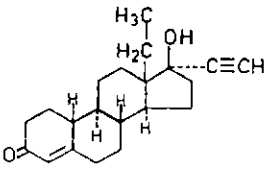
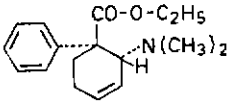
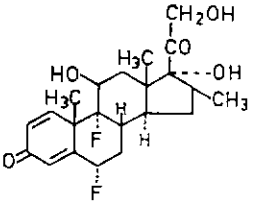
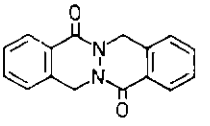
11β,17,21-trihydroxy-6,16α-dimethyl-2'-phenyl-2'*H*-pregna-2,4,6-trieno[3,2-*c*]pyrazol-20-one 21-(*m*-sulfobenzoate)
$C_{37}H_{40}N_2O_8S$

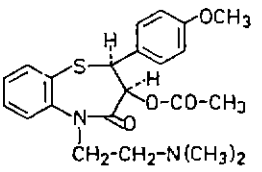
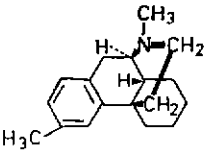
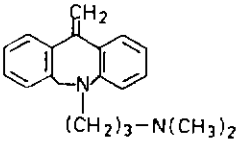
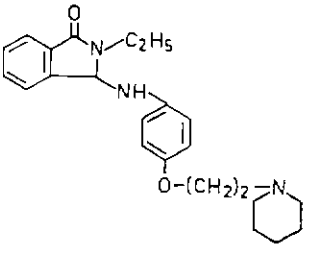


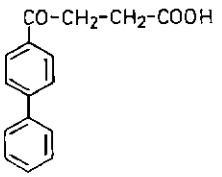
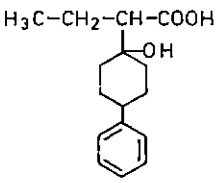
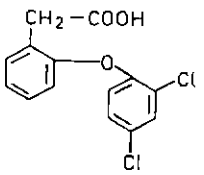
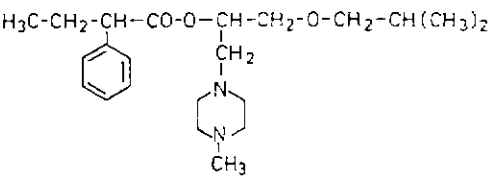
cuprimyxinum
cuprimyxin

bis(6-methoxy-1-phenazinol 5,10-dioxidato-O^1,O^{10})copper
$C_{26}H_{18}CuN_4O_8$



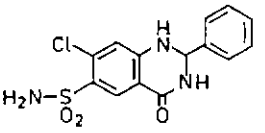
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
dexnorgestrelum dexnorgestrel	(+)-13-ethyl-17-hydroxy-18,19-dinor-17α-pregn-4-en-20-yn-3-one $C_{21}H_{28}O_2$
	
...xtilidinum ...tilidine	(+)-ethyl *trans*-2-(dimethylamino)-1-phenyl-3-cyclohexene-1-carboxylate $C_{17}H_{23}NO_2$
	
diflorasonum diflorasone	6α,9-difluoro-11β,17,21-trihydroxy-16β-methylpregna-1,4-diene-3,20-dione $C_{22}H_{28}F_2O_5$
	
diftalonum diftalone	phthalazino[2,3-*b*]phthalazine-5,12(7*H*,14*H*)dione $C_{16}H_{12}N_2O_2$
	

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
diltiazemum diltiazem	(+)-5-[2-(dimethylamino)ethyl]-*cis*-2,3-dihydro-3-hydroxy-2-(*p*-methoxyphenyl)-1,5-benzothiazepin-4(5*H*)-one acetate (ester) $C_{22}H_{26}N_2O_4S$ 
dimemorfanum dimemorfan	3,17-dimethylmorphinan $C_{18}H_{25}N$ 
enprazepinum enprazepine	5-[3-(dimethylamino)propyl]-5,6-dihydro-11-methylene-11*H*-dibenz[*b*,*e*]azepine $C_{20}H_{24}N_2$ 
etomidolinum etomidoline	2-ethyl-3-(β-piperidino-*p*-phenetidino)phthalimidine $C_{23}H_{29}N_3O_2$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
fenbufenum fenbufen	3-(4-biphenylylcarbonyl)propionic acid $C_{16}H_{14}O_3$ 
·cibutirolum ·cibutirol	α-ethyl-1-hydroxy-4-phenylcyclohexaneacetic acid $C_{16}H_{22}O_3$ 
fenclofenacum fenclofenac	[*o*-(2,4-dichlorophenoxy)phenyl]acetic acid $C_{14}H_{10}Cl_2O_3$ 
fenetradilum fenetradil	1-(isobutoxymethyl)-2-(4-methyl-1-piperazinyl)ethyl 2-phenylbutyrate $C_{22}H_{36}N_2O_3$ 

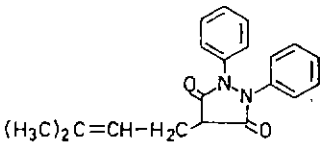
fenquizonum
fenquizone

7-chloro-1,2,3,4-tetrahydro-4-oxo-2-phenyl-6-quinazolinesulfonamide
$C_{14}H_{12}ClN_3O_3S$



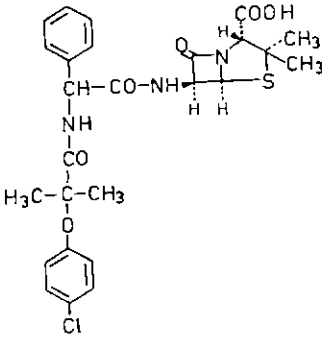
feprazonum
feprazone

4-(3-methyl-2-butenyl)-1,2-diphenyl-3,5-pyrazolidinedione
$C_{20}H_{20}N_2O_2$



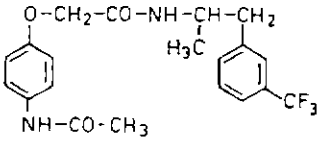
fibracillinum
fibracillin

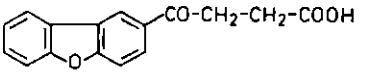
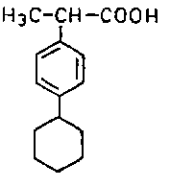
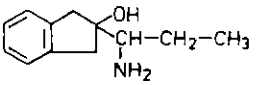
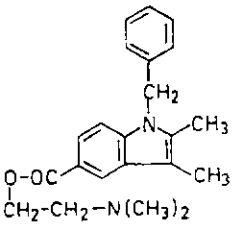
D-6-[2-[2-(*p*-chlorophenoxy)-2-methylpropionamido]-2-phenylacetamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid
$C_{26}H_{28}ClN_3O_6S$



flucetorexum
flucetorex

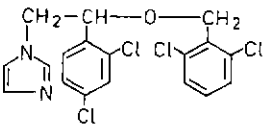
α-[[α-methyl-*m*-(trifluoromethyl)phenethyl]carbamoyl]-*p*-acetanisidide
$C_{20}H_{21}F_3N_2O_3$



Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
furobufenum furobufen	γ-oxo-2-dibenzofuranbutyric acid $C_{16}H_{12}O_4$ 
hexaprofenum hexaprofen	*p*-cyclohexylhydratropic acid $C_{15}H_{20}O_2$ 
indanorexum indanorex	2-(1-aminopropyl)-2-indanol $C_{12}H_{17}NO$ 
indocatum indocate	2-(dimethylamino)ethyl 1-benzyl-2,3-dimethylindole-5-carboxylate $C_{22}H_{26}N_2O_2$ 

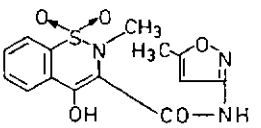
isoconazolum
isoconazole

1-[2,4-dichloro-β-[(2,6-dichlorobenzyl)oxy]phenethyl]imidazole
$C_{18}H_{14}Cl_4N_2O$



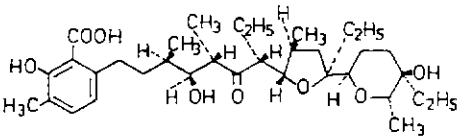
isoxicamum
isoxicam

4-hydroxy-2-methyl-*N*-(5-methyl-3-isoxazolyl)-2*H*-1,2-benzothiazine-3-carboxamide 1,1-dioxide
$C_{14}H_{13}N_3O_5S$



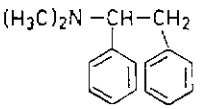
lasalocidum
lasalocid

6-[7(*R*)-[5(*S*)-ethyl-5-(5(*R*)-ethyltetrahydro-5-hydroxy-6(*S*)-methyl-2*H*-pyran-2(*R*)-yl)tetrahydro-3(*S*)-methyl-2(*S*)-furyl]-4(*S*)-hydroxy-3(*R*),5(*S*)-dimethyl-6-oxononyl]-2,3-cresotic acid
$C_{34}H_{54}O_8$

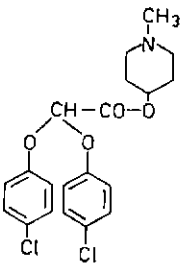


lefetaminum
lefetamine

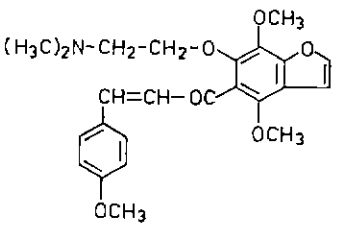
(−)-*N*,*N*-dimethyl-1,2-diphenylethylamine
$C_{16}H_{19}N$



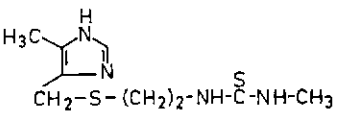
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
lifibratum lifibrate	1-methyl-4-piperidyl glyoxylate 2-[bis(*p*-chlorophenyl) acetal] $C_{20}H_{21}Cl_2NO_4$



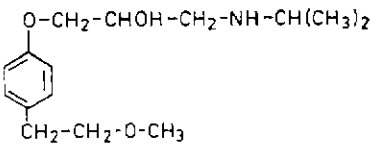
...ecinaronum mecinarone	1-[6-[2-(dimethylamino)ethoxy]-4,7-dimethoxy-5-benzofuranyl]-3-(*p*-methoxyphenyl)-2-propen-1-one $C_{24}H_{27}NO_6$



metiamidum metiamide	1-methyl-3-[2-[[(5-methylimidazol-4-yl)methyl]thio]ethyl]-2-thiourea $C_9H_{16}N_4S_2$

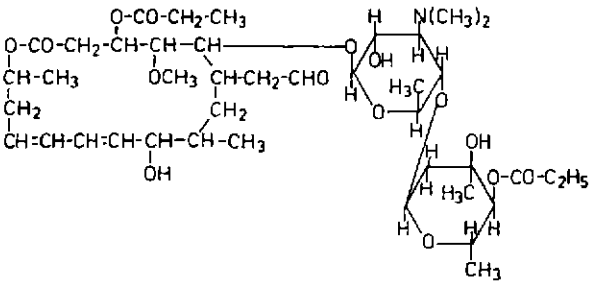


metoprololum metoprolol	(±)-1-(isopropylamino)-3-[*p*-(2-methoxyethyl)phenoxy]-2-propanol $C_{15}H_{25}NO_3$



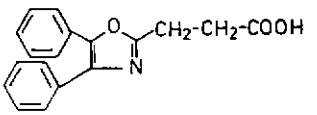
midecamycinum
midecamycin

7-(formylmethyl)-4,10-dihydroxy-5-methoxy-9,16-dimethyl-2-oxooxacyclohexadeca-11,13-dien-6-yl 3,6-dideoxy-4-*O*-(2,6-dideoxy-3-*C*-methyl-α-L-*ribo*-hexopyranosyl)-3-(dimethylamino)-β-D-glucopyranoside 4′,4″-dipropionate (ester)
$C_{41}H_{67}NO_{15}$



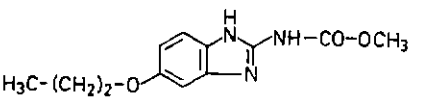
oxaprozinum
oxaprozin

4,5-diphenyl-2-oxazolepropionic acid
$C_{18}H_{15}NO_3$



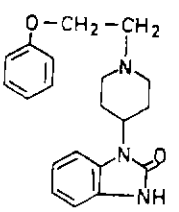
oxibendazolum
oxibendazole

methyl 5-propoxy-2-benzimidazolecarbamate
$C_{12}H_{15}N_3O_3$



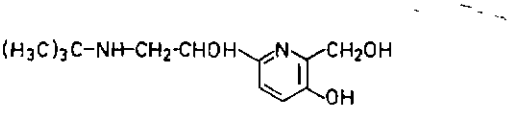
oxiperomidum
oxiperomide

1-[1-(2-phenoxyethyl)-4-piperidyl]-2-benzimidazolinone
$C_{20}H_{23}N_3O_2$



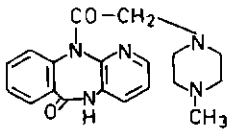
pirbuterolum
pirbuterol

α^6-[(*tert*-butylamino)methyl]-3-hydroxy-2,6-pyridinedimethanol
$C_{12}H_{20}N_2O_3$



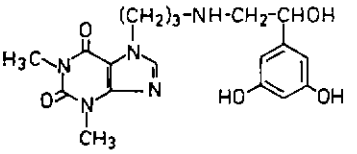
pirenzepinum
pirenzepine

5,11-dihydro-11-[(4-methyl-1-piperazinyl)acetyl]-6*H*-pyrido[2,3-*b*]-[1,4]benzodiazepin-6-one
$C_{19}H_{21}N_5O_2$



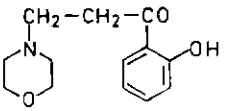
reproterolum
reproterol

7-[3-[(β,3,5-trihydroxyphenethyl)amino]propyl]theophylline
$C_{16}H_{23}N_5O_5$



romifenonum
nifenone

2'-hydroxy-3-morpholinopropiophenone
$C_{13}H_{17}NO_3$



saralasinum
saralasin

N-[1-[*N*-[*N*-[*N*-[*N*-[*N*^{2}-(*N*-methylglycyl)-L-arginyl]-L-valyl]-L-tyrosyl]-L-valyl]-L-histidyl]-L-prolyl]-L-alanine
$C_{42}H_{65}N_{13}O_{10}$

H-Sar-L-Arg-L-Val-L-Tyr-L-Val-L-His-L-Pro-L-Ala-OH

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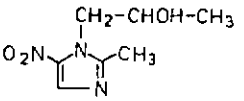
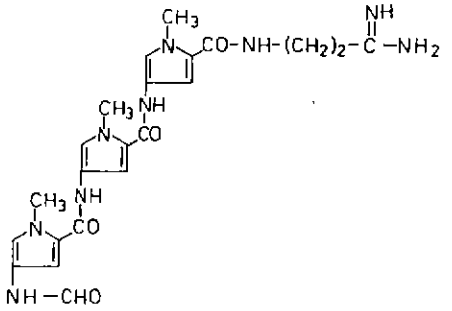
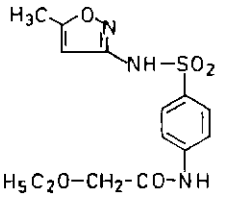
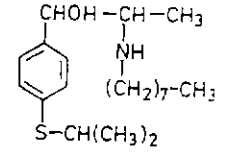
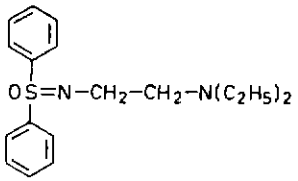
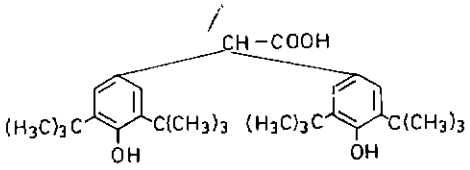
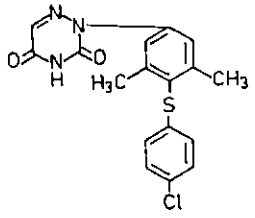
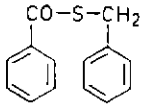
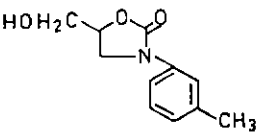
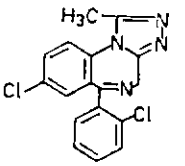
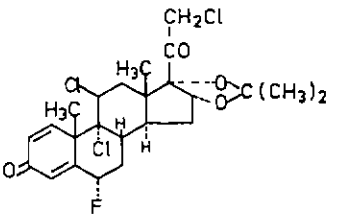
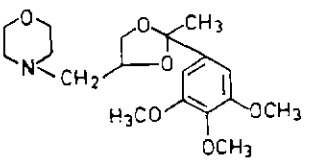
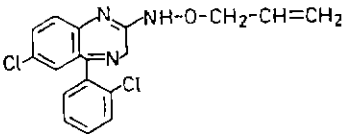
secnidazolum secnidazole	α,2-dimethyl-5-nitroimidazole-1-ethanol $C_7H_{11}N_3O_3$
	
stallimycinum stallimycin	distamycin A ; *N*''-(2-amidinoethyl)-4-formamido-1,1',1''-trimethyl-*N*,4' : *N*',4''-ter(pyrrole-2-carboxamide) $C_{22}H_{27}N_9O_4$
	
sulfacecolum sulfacecole	2-ethoxy-4'-[(5-methyl-3-isoxazolyl)sulfamoyl]acetanilide $C_{14}H_{17}N_3O_5S$
	
suloctidilum suloctidil	*p*-(isopropylthio)-α-[1-(octylamino)ethyl]benzyl alcohol $C_{20}H_{35}NOS$
	

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
suloxifenum suloxifen	*N*-[2-(diethylamino)ethyl]-*S*,*S*-diphenylsulfoximide $C_{18}H_{24}N_2OS$ 
buficinum buficin	bis(3,5-di-*tert*-butyl-4-hydroxyphenyl)acetic acid $C_{30}H_{44}O_4$ 
tiazurilum tiazuril	2-[4-[(*p*-chlorophenyl)thio]-3,5-xylyl]-*as*-triazine-3,5(2*H*,4*H*)-dione $C_{17}H_{14}ClN_3O_2S$ 
tibenzatum tibenzate	*S*-benzyl thiobenzoate $C_{14}H_{12}OS$ 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae*
toloxatonum toloxatone	5-(hydroxymethyl)-3-*m*-tolyl-2-oxazolidinone $C_{11}H_{13}NO_3$ 
triazolamum triazolam	8-chloro-6-(*o*-chlorophenyl)-1-methyl-4*H*-*s*-triazolo[4,3-*a*]-[1,4]benzodiazepine $C_{17}H_{12}Cl_2N_4$ 
triclonidum triclonide	9,11β,21-trichloro-6α-fluoro-16α,17-dihydroxypregna-1,4-diene-3,20-dione cyclic acetal with acetone $C_{24}H_{28}Cl_3FO_4$ 
trixolanum trixolane	4-[[2-methyl-2-(3,4,5-trimethoxyphenyl)-1,3-dioxolan-4-yl]methyl]-morpholine $C_{18}H_{27}NO_6$ 

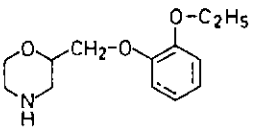
uldazepamum
uldazepam

2-[(allyloxy)amino]-7-chloro-5-(*o*-chlorophenyl)-3*H*-1,4-benzodiazepine
$C_{18}H_{15}Cl_2N_3O$



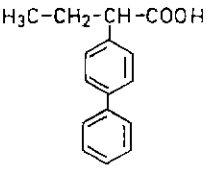
xazinum
xazine

2-[(*o*-ethoxyphenoxy)methyl]morpholine
$C_{13}H_{19}NO_3$



xenbuficinum
xenbuficin

α-ethyl-4-biphenylacetic acid
$C_{16}H_{16}O_2$



AMENDMENTS TO PREVIOUS LISTS

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Proposed International Nonproprietary Names (Prop. INN): Liste 26

p. 419 cefradinum
cefradine

replace chemical name by the following :
7-[D-2-amino-2-(1,4-cyclohexadien-1-yl)acetamido]-3-methyl-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid

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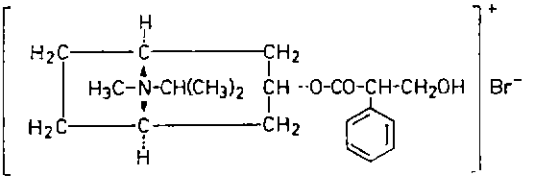
Proposed International Nonproprietary Names (Prop. INN): List 28

p. 424 ipratropii bromidum
ipratropium bromide

replace graphic formula by the following :



p. 430 *delete*
tamidolinum
tamidoline

insert
omidolinum
omidoline

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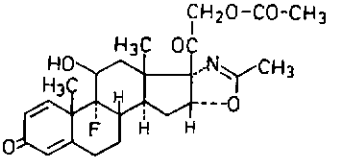
Proposed International Nonproprietary Names (Prop. INN): List 29

p. 127 *delete*
doxazolinum
doxazoline

insert
domazolinum
domazoline

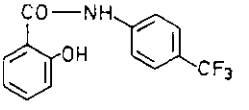
p. 130 fluazacortum
fluazacort

replace graphic formula by the following :



p. 137 salfluverinum
salfluverine

replace graphic formula by the following :



International Nonproprietary Names for Pharmaceutical Substances: Cumulative List No. 3, 1971

p. 78 *delete*

magnesii aluminii glycinas (6) magnesium aluminium glycinate	aluminium-magnesium derivative of glycine	$C_2H_5Al_4MgNO_3$

Annex

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.*

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.*

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. Names should be distinctive in sound and spelling. They should not be inconveniently long and should not be liable to confusion with names already in common use.

2. The name 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 anatom-

* Text revised by the Expert Committee on Nonproprietary Names for Pharmaceutical Substances (unpublished reports WHO/Pharm/67 443, WHO/Pharm/68 447, and WHO/Pharm/70.458).

ical, physiological, pathological or therapeutic suggestion should be avoided.

The above primary principles are to be implemented by utilization of the following secondary principles.

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

4. In devising a name from the systematic chemical name of a substance, syllabes such as " methylhydro ", " methoxy ", and " chlor " should preferably be abbreviated, for example, to " medro ", " meto ", and " clo "; the derived name should not be chemically misleading.

5. In devising names 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 ". The salts of acids having two-word names such as " nicotinic acid " should be named in the usual style, e.g., " sodium nicotinate ".

6. Names 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). Exceptions may have to be made for those cases in which pharmacological activity may reside in both parts of the salt or ester.

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.

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

8. To facilitate translation and pronunciation " f " should preferably be used instead of " ph ", " t " instead of " th ", " e " instead of " ae " or " oe ", and " i " instead of " y ".

9. 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.

10. Group relationship in names (see item 2) should preferably be shown by using common syllables in the following list. Where a syllable or a group of syllables is shown without any hyphens it may be used anywhere in the name. The syllable, or group of syllables, should, if possible, be used only for such substances.

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

At the end of the list are gen chemical syllables. Should they come into conflict with other suggested syllables, the suffix conveying the best information should be used.

Latin	*English*	*French*	
-actidum	-actide	-actide	synthetic polypeptides with a corticotrophin-like action
-andr-	-andr-	-andr-	steroids, androgenic
or -stan-	*or* -stan-	*or* -stan-	
or -ster-	*or* -ster-	*or* -ster-	
-arolum	-arol	-arol	anticoagulants of the coumarin type
-bamatum	-bamate	-bamate	tranquillizers of the propanediol and pentanediol series
barb	barb	barb	barbituric acids, hypnotic activity
bol	bol	bol	anabolic steroids
-cainum	-caine	-caïne	local anaesthetics
cef-	cef-	céf-	antibiotics with cefalosporanic acid nucleus
-cillinum	-cillin	-cilline	penicillins: derivatives of 6-amino-penicillanic acid
cort	cort	cort	steroids, glucocorticoids and mineralocorticoids, other than prednisolone derivatives
-crinum	-crine	-crine	acridine derivatives
-curium	-curium	-curium	curare-like drugs
-cyclinum	-cycline	-cycline	antibiotics, tetracycline derivatives
-estr-	-estr-	-estr-	estrogenic drugs
-forminum	-formin	-formine	guanidine oral antidiabetics
gest	gest	gest	steroids, progestative
gli-	gli-	gli-	sulfonamide oral antidiabetics
io-	io-	io-	iodine-containing contrast media
-moxinum	-moxin	-moxine	monoamine oxidase inhibitors
-mycinum	-mycin	-mycine	antimicrobial antibiotics, produced by *Streptomyces* strains
nifur-	nifur-	nifur-	5-nitrofuran derivates
-onidum	-onide	-onide	steroids for topical use: acetal derivatives
-orexum	-orex	-orex	anorexigenic agents
-praminum	-pramine	-pramine	dibenzazepine, compounds of the imipramine type
prost	prost	prost	prostaglandins
-serpinum	-serpine	-serpine	derivatives of *Rauwolfia* alkaloids
sulfa-	sulfa-	sulfa-	sulfonamides, used as antimicrobials
-terolum	-terol	-térol	bronchodilators: phenethylamine derivatives
-tizidum	-tizide	-tizide	diuretics which are thiazide derivatives
-toinum	-toin	-toïne	antiepileptics which are hydantoin derivatives
-verinum	-verine	-vérine	spasmolytics with a papaverine-like action
-inum	-ine	-ine	alkaloids and organic bases
-onum	-one	-one	ketones
-ium	-ium	-ium	quaternary ammonium compounds