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 *WHO Drug Information*, e.g., for List 61 Prop. INN not later than 30 November 1989.

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.

Action and Use

The statements in italics indicating the action and use are based largely on information supplied by the manufacturer. The information is meant to provide an indication of the potential use of new substances at the time they are accorded proposed INNs. WHO is not in a position either to uphold these statements or to comment on the efficacy of the action claimed. Because of their provisional nature these descriptors will not be included in the Cumulative Lists of INNs.

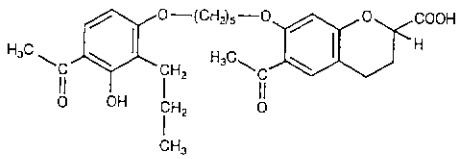
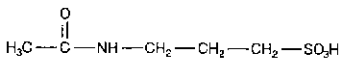
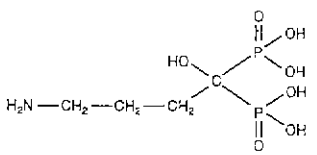
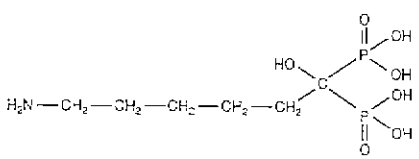
Proposed International Nonproprietary Names (Prop. INN): List 61 [2]

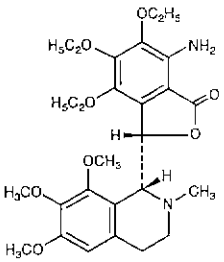
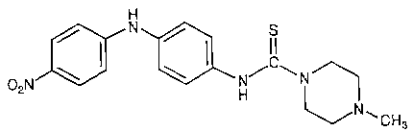
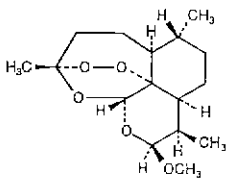
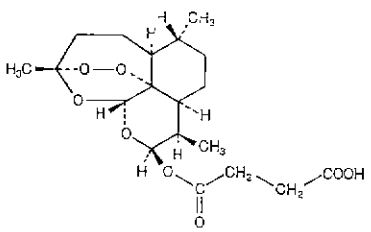
Comprehensive information on the INN programme can be found in WHO Technical Report Series, No 581, 1975 (*Nonproprietary Names for Pharmaceutical Substances* Twentieth Report of the WHO Expert Committee), ISBN 92 4 120581 4 (price: Sw fr 6.–), an account of this publication will be found in Annex 2 of the present List All names from Lists 1–47 of Proposed International Nonproprietary Names, together with a molecular formula index, will be found in *International Nonproprietary Names (INN) for Pharmaceutical Substances Cumulative List No 7*, 1988, World Health Organization, Geneva (ISBN 92 4 056014 9) (price: Sw fr 65.–) 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 1988 The printout also indicates in which of the 58 individual lists of proposed names and 27 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.

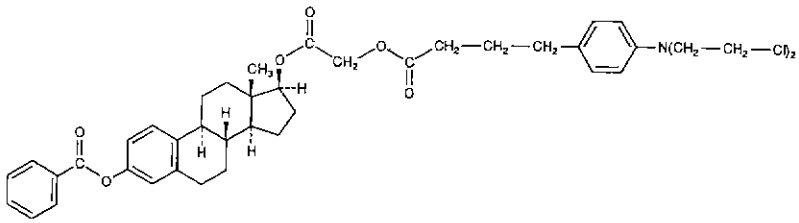
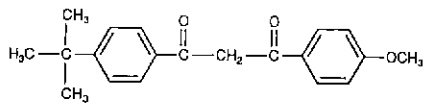
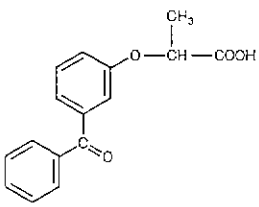
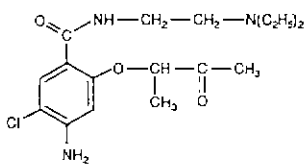
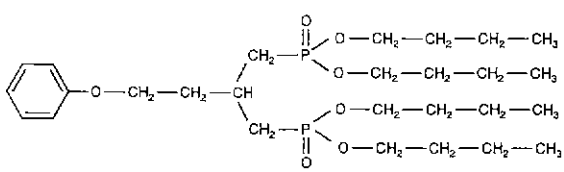
These publications may be obtained, direct or through booksellers, from the sales agents listed on the back cover of *WHO Drug Information*. Orders from countries where sales agents have not yet been appointed may be addressed to: World Health Organization, Distribution and Sales Service. 1211 Geneva 27, Switzerland

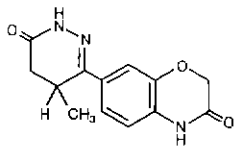
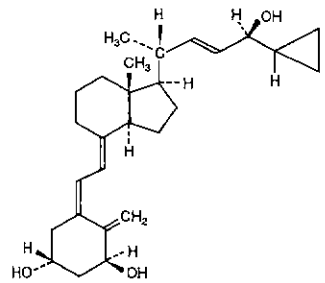
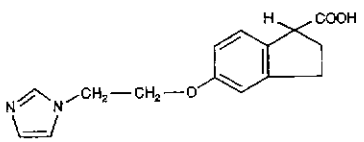
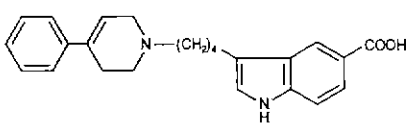
[1] Text adopted by the Executive Board of WHO in resolution EB15.R7 (*Off. Rec. Wld Hlth Org.*, 1955, **60**, 3) and amended by the Board in resolution EB43.R9 (*Off. Rec. Wld. Hlth Org.*, 1969, **173**, 10).

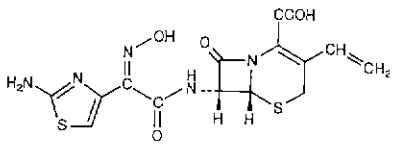
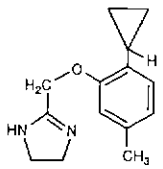
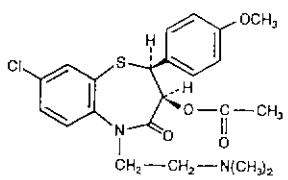
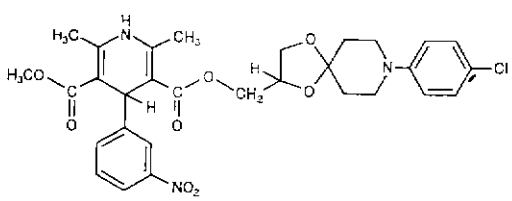
[2] Other lists of proposed and recommended international nonproprietary names can be found in *Cumulative List No 7*, 1988

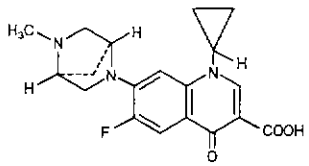
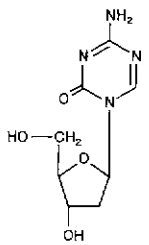
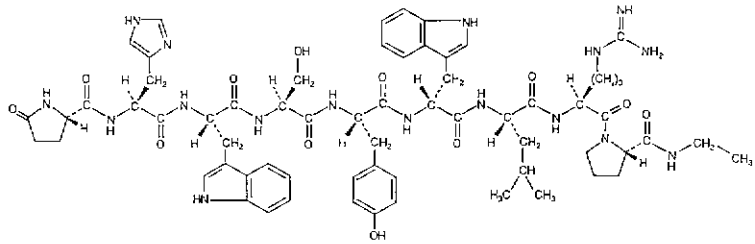
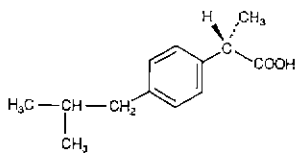
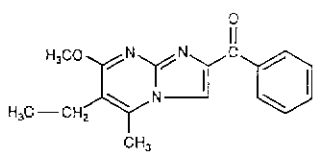
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
ablukastum ablukast	(±)-6-acetyl-7-[[5-(4-acetyl-3-hydroxy-2-propylphenoxy)pentyl]oxy]-2-chromancarboxylic acid $C_{28}H_{34}O_8$ 96566-25-5 *antiallergic, antiasthmatic*
	
acamprosatum acamprosate	3-acetamido-1-propanesulfonic acid $C_5H_{11}NO_4S$ 77337-76-9 *psychotropic*
	
acidum alendronicum alendronic acid	(4-amino-1-hydroxybutylidene)diphosphonic acid $C_4H_{13}NO_7P_2$ 66376-36-1 *Calcium regulator*
	
acidum neridronicum neridronic acid	(6-amino-1-hydroxyhexylidene)diphosphonic acid $C_6H_{17}NO_7P_2$ 79778-41-9 *Calcium regulator*
	

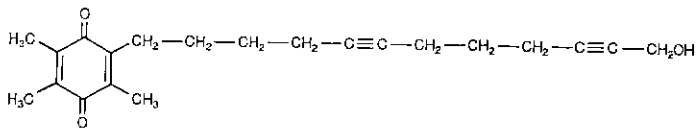
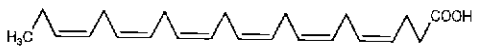
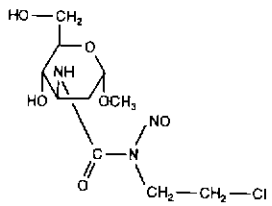
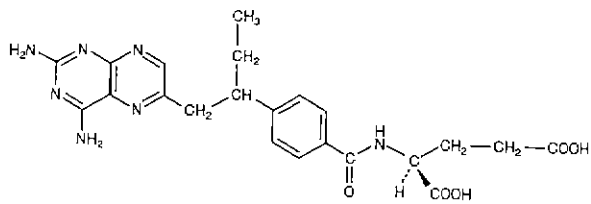
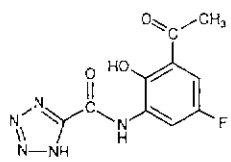
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
altoqualinum altoqualine	(3*S*)-7-amino-4,5,6-triethoxy-3-[(1*R*)-1,2,3,4-tetrahydro-6,7,8-trimethoxy-2-methyl-1-isoquinolyl]phthalide $C_{27}H_{36}N_2O_8$ 121029-11-6 *antiallergic, antihistaminic* 
amocarzinum amocarzine	4-methyl-4′-(*p*-nitroanilino)thio-1-piperazinecarboxanilide $C_{18}H_{21}N_5O_2S$ 36590-19-9 *antifilarial* 
artemetherum artemether	(3*R*,5a*S*,6*R*,8a*S*,9*R*,10*S*,12*R*,12a*R*)-decahydro-10-methoxy-3,6,9-trimethyl-3,12-epoxy-12*H*-pyrano[4,3-*j*]-1,2-benzodioxepin $C_{16}H_{26}O_5$ 71963-77-4 *antimalarial* 
artesunatum artesunate	(3*R*,5a*S*,6*R*,8a*S*,9*R*,10*S*,12*R*,12a*R*)-decahydro-3,6,9-trimethyl-3,12-epoxy-12*H*-pyrano[4,3-*j*]-1,2-benzodioxepin-10-ol, hydrogen succinate $C_{19}H_{28}O_8$ 88495-63-0 *antimalarial* 

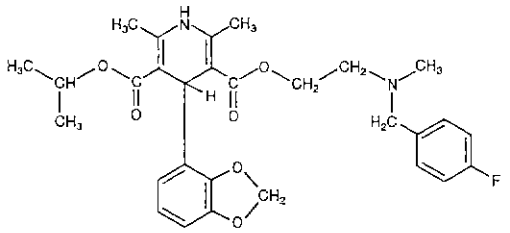
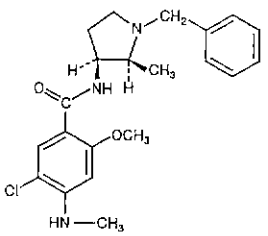
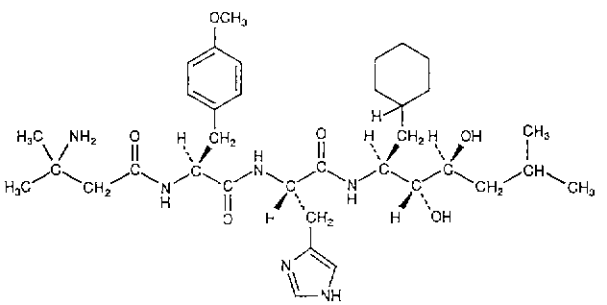
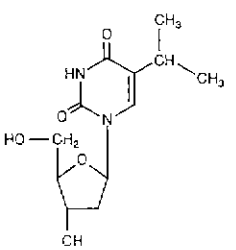
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
atrimustinum atrimustine	estradiol 3-benzoate 17-glycolate, 4-[*p*-[bis(2-chloroethyl)amino]phenyl]butyrate $C_{41}H_{47}Cl_2NO_6$ 75219-46-4 *antineoplastic* 
avobenzonum avobenzone	1-(*p*-*tert*-butylphenyl)-3-(*p*-methoxyphenyl)-1,3-propanedione $C_{20}H_{22}O_3$ 70356-09-1 *sunscreen* 
bakeprofenum bakeprofen	(±)-2-(*m*-benzoylphenoxy)propionic acid $C_{16}H_{14}O_4$ 74168-02-8 *analgesic, nonsteroidal anti-inflammatory* 
batanopridum batanopride	(±)-4-amino-5-chloro-*N*-[2-(diethylamino)ethyl]-2-[(1-methylacetonyl)oxy]-benzamide $C_{17}H_{26}ClN_3O_3$ 102670-46-2 *antiemetic* 
belfosdilum belfosdil	tetrabutyl [2-(2-phenoxyethyl)trimethylene]diphosphonate $C_{27}H_{50}O_7P_2$ 103486-79-9 *Calcium antagonist* 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
bemoradanum bemoradan	(±)-7-(1,4,5,6-tetrahydro-4-methyl-6-oxo-3-pyridazinyl)-2*H*-1,4-benzoxazin-3(4*H*)-one $C_{13}H_{13}N_3O_3$ 112018-01-6 *positive inotropic agent* 
calcipotriolum calcipotriol	(5*Z*,7*E*,22*E*,24*S*)-24-cyclopropyl-9,10-secochola-5,7,10(19),22-tetraene-1*α*,3*β*,24-triol $C_{27}H_{40}O_3$ 112828-00-9 *antipsoriatic* 
camonagrelum camonagrel	(±)-5-(2-imidazol-1-ylethoxy)-1-indancarboxylic acid $C_{15}H_{16}N_2O_3$ 105920-77-2 *platelet aggregation inhibitor* 
carmoxirolum carmoxirole	3-[4-(3,6-dihydro-4-phenyl-1(2*H*)-pyridyl)butyl]indole-5-carboxylic acid $C_{24}H_{26}N_2O_2$ 98323-83-2 *D_1-dopamine receptor agonist* 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
cefdinirum cefdinir	(−)-(6*R*,7*R*)-7-[2-(2-amino-4-thiazolyl)glyoxylamido]-8-oxo-3-vinyl-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7²-(*Z*)-oxime $C_{14}H_{13}N_5O_5S_2$ 91832-40-5 *antibiotic*
	
cilutazolinum cilutazoline	2-[[(6-cyclopropyl-*m*-tolyl)oxy]methyl]-2-imidazoline $C_{14}H_{18}N_2O$ 104902-08-1 *nasal vasoconstrictor*
	
clentiazemum clentiazem	(+)-*cis*-8-chloro-5-[2-(dimethylamino)ethyl]-2,3-dihydro-3-hydroxy-2-(*p*-methoxyphenyl)-1,5-benzothiazepin-4(5*H*)-one acetate (ester) $C_{22}H_{25}ClN_2O_4S$ 96125-53-0 *Calcium antagonist*
	
cronidipinum cronidipine	[8-(*p*-chlorophenyl)-1,4-dioxa-8-azaspiro[4,5]dec-2-yl]methyl methyl 1,4-dihydro-2,6-dimethyl-4-(*m*-nitrophenyl)-3,5-pyridinedicarboxylate $C_{30}H_{32}ClN_3O_8$ 113759-50-5 *Calcium antagonist*
	

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
danofloxacinum danofloxacin	1-cyclopropyl-6-fluoro-1,4-dihydro-7-[(1*S*,4*S*)-5-methyl-2,5-diaza-bicyclo[2 2.1]hept-2-yl]-4-oxo-3-quinolinecarboxylic acid $C_{19}H_{20}FN_3O_3$ 112398-08-0 *antibacterial (vet.)*
	
decitabinum decitabine	4-amino-1-(2-deoxy-β-D-*erythro*-pentofuranosyl)-*s*-triazin-2(1*H*)-one $C_8H_{12}N_4O_4$ 2353-33-5 *antineoplastic*
	
deslorelinum deslorelin	5-oxo-L-prolyl-L-histidyl-L-tryptophyl-L-seryl-L-tyrosyl-D-tryptophyl-L-leucyl-L-arginyl-*N*-ethyl-L-prolinamide $C_{64}H_{83}N_{17}O_{12}$ 57773-65-6 *LHRH analogue*
	
dexibuprofenum dexibuprofen	(*S*)-(+)-*p*-isobutylhydratropic acid $C_{13}H_{18}O_2$ 51146-56-6 *analgesic, nonsteroidal anti-inflammatory*
	
divaplonum divaplon	6-ethyl-7-methoxy-5-methylimidazo[1,2-*a*]pyrimidin-2-yl phenyl ketone $C_{17}H_{17}N_3O_2$ 90808-12-1 *anxiolytic*
	

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
docebenonum docebenone	2-(12-hydroxy-5,10-dodecadiynyl)-3,5,6-trimethyl-*p*-benzoquinone $C_{21}H_{26}O_3$ 80809-81-0 *antiallergic, antiasthmatic* 
doconexentum doconexent	(*all-Z*)-4,7,10,13,16,19-docosahexaenoic acid $C_{22}H_{32}O_2$ 6217-54-5 *platelet aggregation inhibitor* 
ecomustinum ecomustine	methyl 3-[3-(2-chloroethyl)-3-nitrosoureido]-2,3-dideoxy-α-D-*arabino*-hexopyranoside $C_{10}H_{18}ClN_3O_6$ 98383-18-7 *antineoplastic* 
edatrexatum edatrexate	*N*-[*p*-[1-[(2,4-diamino-6-pteridinyl)methyl]propyl]benzoyl]-L-glutamic acid $C_{22}H_{25}N_7O_5$ 80576-83-6 *antineoplastic* 
eflumastum eflumast	3′-acetyl-5′-fluoro-2′-hydroxy-1*H*-tetrazole-5-carboxanilide $C_{10}H_8FN_5O_3$ 70977-46-7 *antiallergic, antiasthmatic* 

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
elgodipinum elgodipine	2-[(*p*-fluorobenzyl)methylamino]ethyl isopropyl (±)-1,4-dihydro-2,6-dimethyl-4-[2,3-(methylenedioxy)phenyl]-3,5-pyridinedicarboxylate $C_{29}H_{33}FN_2O_6$ 119413-55-7 *Calcium antagonist*
	
emonapridum emonapride	(±)-*cis*-*N*-(1-benzyl-2-methyl-3-pyrrolidinyl)-5-chloro-4-(methylamino)-*o*-anisamide $C_{21}H_{26}ClN_3O_2$ 93664-94-9 *D_1-dopamine receptor antagonist*
	
enalkirenum enalkiren	(*aS*)-*a*-[(*aS*)-*a*-(3-amino-3-methylbutyramido)-*p*-methoxyhydrocinnamamido]-*N*-[(1*S*,2*R*,3*S*)-1-(cyclohexylmethyl)-2,3-dihydroxy-5-methylhexyl]imidazole-4-propionamide $C_{35}H_{56}N_6O_8$ 113082-98-7 *renin inhibitor*
	
epervudinum epervudine	2′-deoxy-5-isopropyluridine $C_{12}H_{18}N_2O_5$ 60136-25-6 *antiviral*
	

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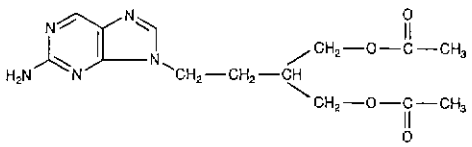
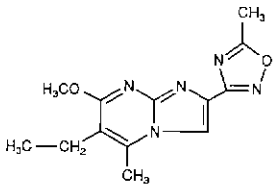
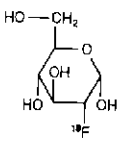
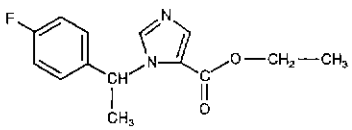
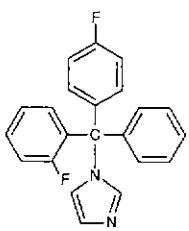
famciclovirum famciclovir	2-[2-(2-amino-9*H*-purin-9-yl)ethyl]-1,3-propanediol diacetate (ester) $C_{14}H_{19}N_5O_4$ 104227-87-4 *antiviral* 
fasiplonum fasiplon	6-ethyl-7-methoxy-5-methyl-2-(5-methyl-1,2,4-oxadiazol-3-yl)imidazo-[1,2-*a*]pyrimidine $C_{13}H_{15}N_5O_2$ 106100-65-6 *anxiolytic* 
fibrinum fibrin	an insoluble plasma protein obtained by the action of thrombin on fibrinogen. The source of the product should be indicated, e.g. fibrin (bovine). *local haemostatic agent*
fludeoxyglucosum (^{18}F) fludeoxyglucose (^{18}F)	2-deoxy-2-fluoro-^{18}F-α-D-glucopyranose $C_6H_{11}{}^{18}FO_5$ 105851-17-0 *radioactive diagnostic agent* 
flutomidatum flutomidate	ethyl (±)-1-(*p*-fluoro-α-methylbenzyl)imidazole-5-carboxylate $C_{14}H_{15}FN_2O_2$ 84962-75-4 *anaesthesic (vet.)* 
flutrimazolum flutrimazole	1-[*o*-fluoro-α-(*p*-fluorophenyl)-α-phenylbenzyl]imidazole $C_{22}H_{16}F_2N_2$ 119006-77-8 *antifungal* 

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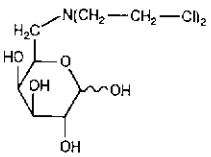
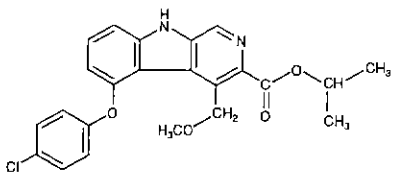
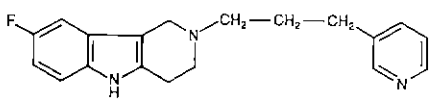
galamustinum galamustine	6-[bis(2-chloroethyl)amino]-6-deoxy-D-galactopyranose $C_{10}H_{19}Cl_2NO_5$ 105618-02-8 *antineoplastic*



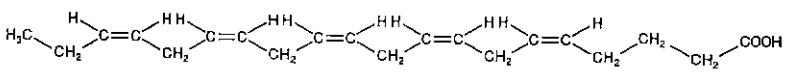
gedocarnilum gedocarnil	isopropyl 5-(*p*-chlorophenoxy)-4-(methoxymethyl)-9*H*-pyrido[3,4-*b*]indole-3-carboxylate $C_{23}H_{21}ClN_2O_4$ 109623-97-4 *partial benzodiazepine receptor agonist*



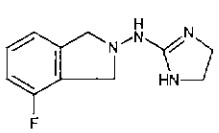
gevotrolinum gevotroline	8-fluoro-2,3,4,5-tetrahydro-2-[3-(3-pyridyl)propyl]-1*H*-pyrido[4,3-*b*]indole $C_{19}H_{20}FN_3$ 107266-06-8 *antipsychotic*



icosapentum icosapent	(*all-Z*)-5,8,11,14,17-eicosapentaenoic acid *or* (*all-Z*)-5,8,11,14,17-icosapentaenoic acid $C_{20}H_{30}O_2$ 10417-94-4 *platelet aggregation inhibitor*



isaglidolum isaglidole	4-fluoro-2-(2-imidazolin-2-ylamino)isoindoline $C_{11}H_{13}FN_4$ 110605-64-6 *antidiabetic*



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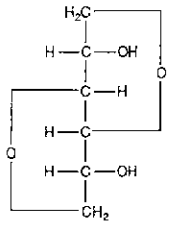
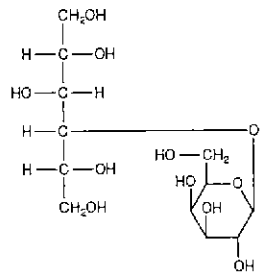
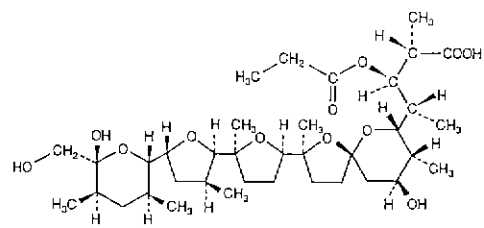
isosorbidum isosorbide	1,4:3,6-dianhydro-D-glucitol $C_6H_{10}O_4$ 652-67-5



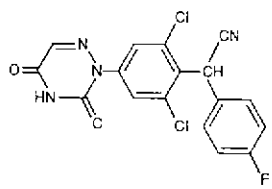
lactitolum lactitol	4-*O*-β-D-galactopyranosyl-D-glucitol $C_{12}H_{24}O_{11}$ 585-86-4 *sweetener*



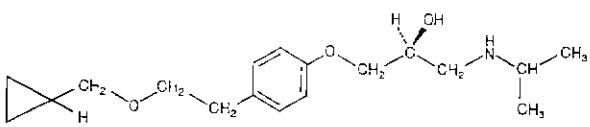
laidlomycinum laidlomycin	(α*S*,β*R*,γ*S*,2*S*,5*R*,7*S*,8*R*,9*S*)-β,9-dihydroxy-α,γ,2,8-tetramethyl-2-[(2*R*,5*S*)-tetrahydro-5-methyl-5-[(2*R*,3*S*,5*R*)-tetrahydro-3-methyl-5-[(2*S*,3*S*,5*R*,6*R*)-tetrahydro-6-hydroxy-6-(hydroxymethyl)-3,5-dimethyl-2*H*-pyran-2-yl]-2-furyl]-2-furyl]-1,6-dioxaspiro[4.5]decane-7-butyric acid, β-propionate $C_{37}H_{62}O_{12}$ 56283-74-0 *coccidiostatic (vet.)*



letrazurilum letrazuril	(±)-[2,6-dichloro-4-(4,5-dihydro-3,5-dioxo-*as*-triazin-2(3*H*)-yl)phenyl](*p*-fluorophenyl)acetonitrile $C_{17}H_9Cl_2FN_4O_2$ 103337-74-2 *coccidiostatic (vet.)*



levobetaxololum levobetaxolol	(−)-(*S*)-1-[*p*-[2-(cyclopropylmethoxy)ethyl]phenoxy]-3-(isopropylamino)-2-propanol $C_{18}H_{29}NO_3$ 93221-48-8 *β-adrenoreceptor antagonist*



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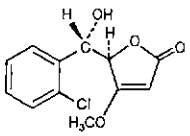
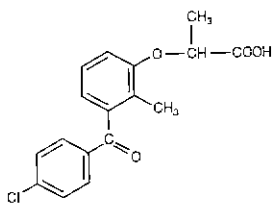
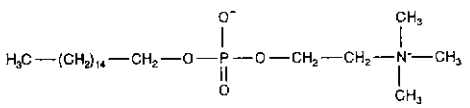
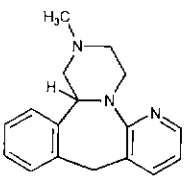
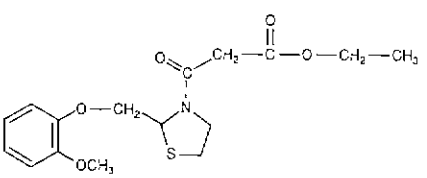
losigamonum losigamone	(5*R**)-5-[(*aS**)-*o*-chloro-*a*-hydroxybenzyl]-4-methoxy-2(5*H*)-furanone $C_{12}H_{11}ClO_4$ 112856-44-7 *antiepileptic*
	
losmiprofenum losmiprofen	(±)-2-[[3-(*p*-chlorobenzoyl)-*o*-tolyl]oxy]propionic acid $C_{17}H_{15}ClO_4$ 74168-08-4 *nonsteroidal anti-inflammatory*
	
miltefosinum miltefosine	choline hydroxide, hexadecyl hydrogen phosphate, inner salt $C_{21}H_{46}NO_4P$ 58066-85-6 *antineoplastic*
	
mirtazapinum mirtazapine	1,2,3,4,10,14b-hexahydro-2-methylpyrazino[2,1-*a*]pyrido[2,3-*c*][2]benzazepine $C_{17}H_{19}N_3$ 61337-67-5 *antidepressant*
	
moguisteinum moguisteine	ethyl (±)-2-[(*o*-methoxyphenoxy)methyl]-*β*-oxo-3-thiazolidinepropionate $C_{16}H_{21}NO_5S$ 119637-67-1 *antitussive*
	

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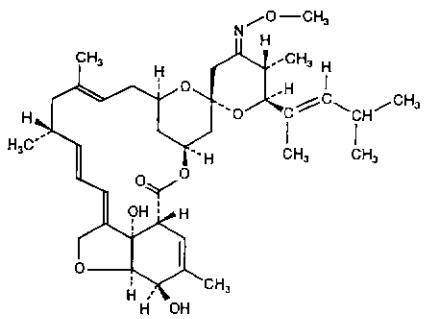
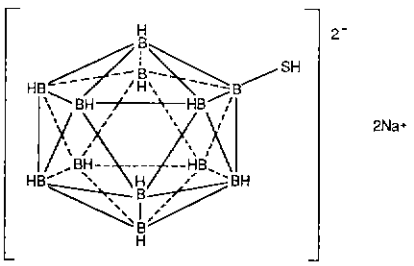
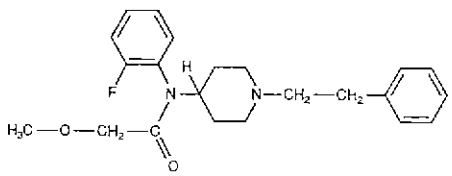
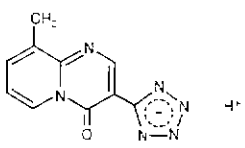
moxidectinum moxidectin	(6*R*,25*S*)-5-*O*-demethyl-28-deoxy-25-[(*E*)-1,3-dimethyl-1-butenyl]-6,28-epoxy-23-oxomilbemycin B 23-(*O*-methyloxime) $C_{37}H_{53}NO_8$ 113507-06-5 *antiparasitic (vet.)*
	
natrii borocaptas (^{10}B) sodium borocaptate (^{10}B)	disodium undecahydromercaptododecaborate(2-)-$^{10}B_{12}$ $Na_2{}^{10}B_{12}H_{12}S$ 103831-41-0 *neutron capture agent*
	
ocfentanilum ocfentanil	2′-fluoro-2-methoxy-*N*-(1-phenethyl-4-piperidyl)acetanilide $C_{22}H_{27}FN_2O_2$ 101343-69-5 *narcotic analgesic*
	
pemirolastum pemirolast	9-methyl-3-(1*H*-tetrazol-5-yl)-4*H*-pyrido[1,2-*a*]pyrimidin-4-one $C_{10}H_8N_6O$ 69372-19-6 *antiallergic*
	

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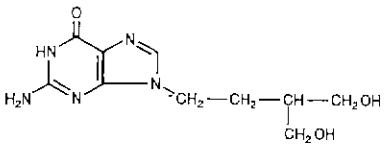
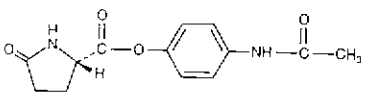
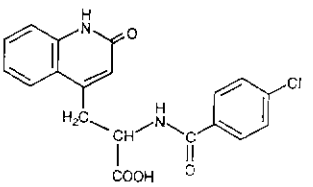
penciclovirum penciclovir	9-[4-hydroxy-3-(hydroxymethyl)butyl]guanine $C_{10}H_{15}N_5O_3$ 39809-25-1 *antiviral*



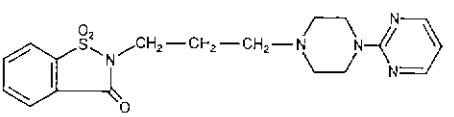
tolacetamolum tolacetamol	5-oxo-L-proline, ester with 4'-hydroxyacetanilide $C_{13}H_{14}N_2O_4$ 114485-92-6 *analgesic, antipyretic*



rebamipidum rebamipide	(±)-α-(*p*-chlorobenzamido)-1,2-dihydro-2-oxo-4-quinolinepropionic acid $C_{19}H_{15}ClN_2O_4$ 111911-87-6 *antiulcer*



revospironum revospirone	2-[3-[4-(2-pyrimidinyl)-1-piperazinyl]propyl]-1,2-benzisothiazolin-3-one 1,1-dioxide $C_{18}H_{21}N_5O_3S$ 95847-87-3 *tranquillizer (vet.)*



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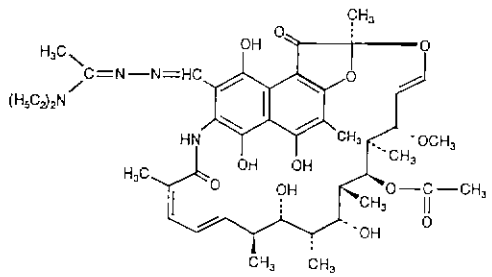
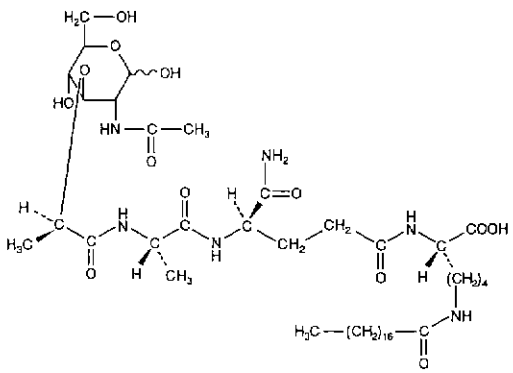
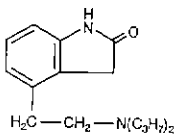
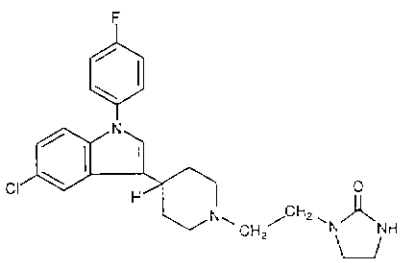
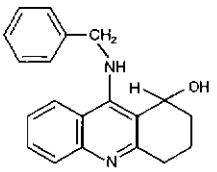
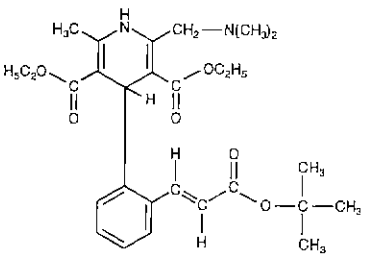
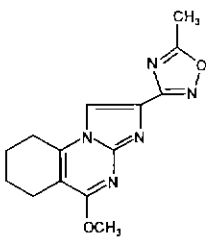
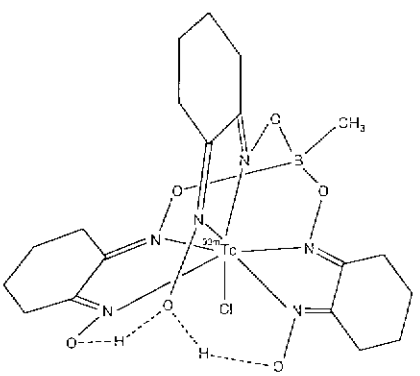
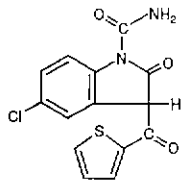
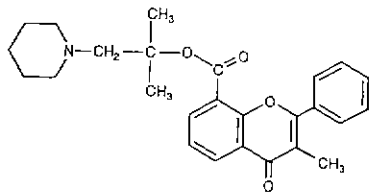
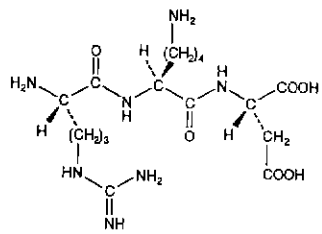
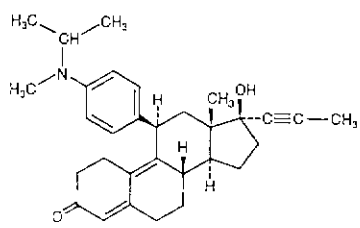
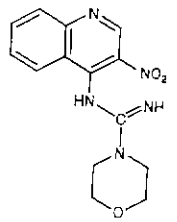
rifametanum rifametane	(2*S*,12*Z*,14*E*,16*S*,17*S*,18*R*,19*R*,20*R*,21*S*,22*S*,23*S*,24*E*)-1,2-dihydro-5,6,9,17,19,21-hexahydroxy-23-methoxy-2,4,12,16,18,20,22-heptamethyl-1,11-dioxo-2,7-(epoxypentadeca[1,11,13]trienimino)naphtho[2,1-*b*]furan-8-carboxaldehyde, 8-azine with *N*,*N*-diethylacetamide, 21-acetate $C_{44}H_{60}N_4O_{12}$ 94168-98-6 *antibiotic*
	
romurtidum romurtide	2-acetamido-3-*O*-[(*R*)-1-[[(*S*)-1-[[(*R*)-1-carbamoyl-3-[[(*S*)-1-carboxy-5-stearamidopentyl]carbamoyl]propyl]carbamoyl]ethyl]carbamoyl]ethyl]-2-deoxy-D-glucopyranose $C_{43}H_{78}N_6O_{13}$ 78113-36-7 *immunomodulator*
	
ropinirolum ropinirole	4-[2-(dipropylamino)ethyl]-2-indolinone $C_{16}H_{24}N_2O$ 91374-21-9 *D_2-dopamine receptor agonist*
	
sertindolum sertindole	1-[2-[4-[5-chloro-1-(*p*-fluorophenyl)indol-3-yl]piperidino]ethyl]-2-imidazolidinone $C_{24}H_{26}ClFN_4O$ 106516-24-9 *antipsychotic*
	

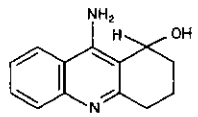
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description. Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
suronacrinum suronacrine	(±)-9-(benzylamino)-1,2,3,4-tetrahydro-1-acridinol $C_{20}H_{20}N_2O$ 104675-35-6 *cholinesterase inhibitor*
	
taludipinum taludipine	(±)-4-[*o*-[(*E*)-2-carboxyvinyl]phenyl]-2-[(dimethylamino)methyl]-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylic acid, 4-*tert*-butyl diethyl ester $C_{28}H_{38}N_2O_6$ 108687-08-7 *Calcium antagonist*
	
taniplonum taniplon	6,7,8,9-tetrahydro-5-methoxy-2-(5-methyl-1,2,4-oxadiazol-3-yl)imidazo-[1,2-*a*]quinazoline $C_{14}H_{15}N_5O_2$ 106073-01-2 *anxiolytic*
	
)hnetium (^{99m}Tc) teboroximum :chnetium (^{99m}Tc) teboroxime	[bis[(1,2-cyclohexanedione dioximato)(1-)-*O*][(1,2-cyclohexanedione dioximato)(2-)-*O*]methylborato(2-)-*N*,*N*′,*N*″,*N*‴,*N*⁗,*N*⁗′]chloro[^{99m}Tc]technetium(III) $C_{19}H_{29}BClN_6O_6{}^{99m}Tc$ 104716-22-5 *radioactive diagnostic agent*
	

Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
tenidapum tenidap	(±)-5-chloro-2-oxo-3-(2-thenoyl)-1-indolinecarboxamide $C_{14}H_9ClN_2O_3S$ 100599-27-7 *nonsteroidal anti-inflammatory*
	
terflavoxatum terflavoxate	1,1-dimethyl-2-piperidinoethyl 3-methyl-4-oxo-2-phenyl-4*H*-1-benzopyran-8-carboxylate $C_{26}H_{29}NO_4$ 86433-40-1 *antispasmodic*
	
thymotrinanum thymotrinan	*N*-(*N*^{2}-L-arginyl-L-lysyl)-L-aspartic acid $C_{16}H_{31}N_7O_6$ 85465-82-3 *immunomodulator*
	
toripristonum toripristone	17β-hydroxy-11β-[*p*-(isopropylmethylamino)phenyl]-17-(1-propynyl)estra-4,9-dien-3-one $C_{31}H_{39}NO_2$ 91935-26-1 *antiglucocorticoid*
	

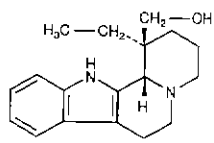
Proposed International Nonproprietary Name (Latin, English)	*Chemical Name or Description, Molecular and Graphic Formulae* *Chemical Abstracts Service (CAS) registry number* *Action and use*
troquidazolum troquidazole	*N*-(3-nitro-4-quinolyl)-4-morpholinecarboxamidine $C_{14}H_{15}N_5O_3$ 108001-60-1 *radiosensitizing agent*



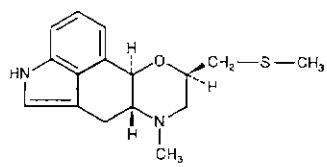
velnacrinum velnacrine	(±)-9-amino-1,2,3,4-tetrahydro-1-acridinol $C_{13}H_{14}N_2O$ 112964-98-4 *cholinesterase inhibitor*



vintoperolum vintoperol	(−)-(1*S*,12b*S*)-1-ethyl-1,2,3,4,6,7,12,12b-octahydroindolo[2,3-*a*]quinolizine-1-methanol $C_{18}H_{24}N_2O$ 106498-99-1 *peripheral vasodilator*



voxergolidum voxergolide	(±)-(6a*R*,9*R*,10a*R*)-4,6a,7,8,9,10a-hexahydro-7-methyl-9-[(methylthio)methyl]-6*H*-indolo[3,4-*gh*][1,4]benzoxazine $C_{16}H_{20}N_2OS$ 89651-00-3 *dopamine receptor agonist*



Names for Radicals and Groups

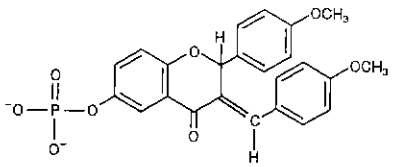
Some substances for which a proposed international nonproprietary name has been established may be used in the form of salts or esters. The radicals or groups involved may be of complex composition and it is then inconvenient to refer to them in systematic chemical nomenclature. Consequently, shorter nonproprietary names for some radicals and groups have been devised or selected, and they are suggested for use with the proposed international nonproprietary names.

butepras
buteprate

butyrate propionate

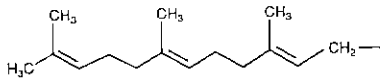
crobefas
crobefate

(±)-(*E*)-6-hydroxy-4′-methoxy-3-(*p*-methoxybenzylidene)flavanone, phosphate, ion(2-)
$C_{24}H_{19}O_8P$



farnesilum
farnesil

(2*E*,6*E*)-3,7,11-trimethyl-2,6,10-dodecatrienyl
$C_{15}H_{25}$



AMENDMENTS TO PREVIOUS LISTS

WHO Chronicle, Vol. 36, No. 5, 1982

Proposed International Nonproprietary Names (Prop. INN): List 48

	delete	*insert*
p. 13	loxtidinum loxtidine	lavoltidinum lavoltidine

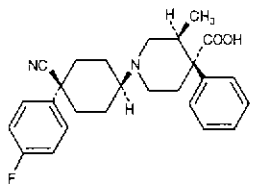
WHO Chronicle Vol. 37, No. 5, 1983

Proposed International Nonproprietary Names (Prop. INN): List 50

p 17 levocabastinum
levocabastine

replace the chemical name and the graphical formula by:

(−)-(3*S*,4*R*)-1-[*cis*-4-cyano-4-(*p*-fluorophenyl)cyclohexyl]-3-methyl-4-phenylisonipecotic acid



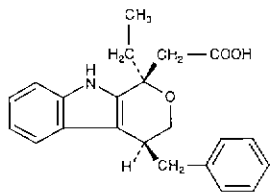
WHO Drug Information Vol. 1, No. 3, 1987

Proposed International Nonproprietary Names (Prop. INN): List 58

p 186 pemedolacum
pemedolac

replace the chemical name, the CAS registry number and the graphic formula by the following:

(±)-*cis*-4-benzyl-1-ethyl-1,3,4,9-tetrahydropyrano[3,4-*b*]indole-1-acetic acid
114716-16-4



WHO Drug Information Vol. 2, No. 4, 1988

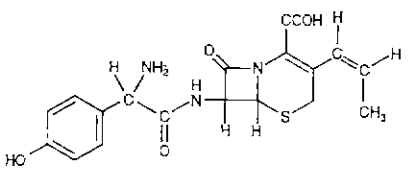
Proposed International Nonproprietary Names (Prop. INN): List 60

	delete	*insert*
p. 4	mequitazii iodidum mequitazium iodide	mequitamii iodidum mequitamium iodide

p. 6 cefprozilum
cefprozil

replace the chemical name and the graphical formula by the following:

(6R,7R)-7-[(R)-2-amino-2-(p-hydroxyphenyl)acetamido]-8-oxo-3-propenyl-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid.



Annex 1
PROCEDURE FOR THE SELECTION OF RECOMMENDED INTERNATIONAL NONPROPRIETARY NAMES FOR PHARMACEUTICAL SUBSTANCES*

The following procedure shall be followed by the World Health Organization in the selection of recommended international nonproprietary names for pharmaceutical substances, in accordance with the World Health Assembly resolution WHA3.11:

1. Proposals for recommended international nonproprietary names shall be submitted to the World Health Organization on the form provided therefor

2. Such proposals shall be submitted by the Director-General of the World Health Organization to the members of the Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations designated for this purpose, for consideration in accordance with the "General principles for guidance in devising International Nonproprietary Names", appended to this procedure. The name used by the person discovering or first developing and marketing a pharmaceutical substance shall be accepted, unless there are compelling reasons to the contrary.

3. Subsequent to the examination provided for in article 2, the Director-General of the World Health Organization shall give notice that a proposed international nonproprietary name is being considered.

A. Such notice shall be given by publication in the *Chronicle of the World Health Organization*[1] and by letter to Member States and to national pharmacopoeia commissions or other bodies designated by Member States.

(i) Notice may also be sent to specific persons known to be concerned with a name under consideration.

B. Such notice shall:

(i) set forth the name under consideration;

(ii) identify the person who submitted a proposal for naming the substance, if so requested by such person;

(iii) identify the substance for which a name is being considered;

(iv) set forth the time within which comments and objections will be received and the person and place to whom they should be directed;

(v) state the authority under which the World Health Organization is acting and refer to these rules of procedure.

C. In forwarding the notice, the Director-General of the World Health Organization shall request that Member States take such steps as are necessary to prevent the acquisition of proprietary rights in the proposed name during the period it is under consideration by the World Health Organization

4. Comments on the proposed name may be forwarded by any person to the World Health Organization within four months of the date of publication, under article 3, of the name in the *Chronicle of the World Health Organization.*[1]

5. A formal objection to a proposed name may be filed by any interested person within four months of the date of publication, under article 3, of the name in the *Chronicle of the World Health Organization.*[1]

A. Such objection shall:

(i) identify the person objecting,

(ii) state his interest in the name;

(iii) set forth the reasons for his objection to the name proposed

6. Where there is a formal objection under article 5, the World Health Organization may either reconsider the proposed name or use its good offices to attempt to obtain withdrawal of the objection. Without prejudice to the consideration by the World Health Organization of a substitut 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 [illegible] 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. From 1987, wards lists of INNs are published in *WHO C* information.

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

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

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

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

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

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

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

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

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

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

7. To facilitate the translation and pronunciation of INN, "f" should be used instead of "ph", "t" instead of "th", "e" instead of "ae" or "oe", and "i" instead of "y"; the use of the letters "h" and "k" should be avoided.

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

9. Group relationship in INN (see Guiding Principle 2) should if possible be shown by using a common stem. The following list contains examples of stems for groups of substances, particularly for new groups. There are many other stems in active use.[1] Where a stem is shown without any hyphens it may be used anywhere in the name.

Latin	*English*	
-acum	-ac	anti-inflammatory agents of the ibufenac group
-actidum	-actide	synthetic polypeptides with a corticotrophin-like action
-adolum	-adol	analgesics
-adol-	-adol-	
-astum	-ast	anti-asthmatic, anti-allergic substances not acting primarily as antihistaminics
-stinum	-astine	antihistaminics
lepamum	-azepam	substances of the diazepam group
-bactamum	-bactam	β-lactamase inhibitors
bol	bol	steroids, anabolic
-buzonum	-buzone	anti-inflammatory analgesics of the phenylbutazone group
-cain-	-cain-	antifibrillant substances with local anaesthetic activity
-cainum	-caine	local anaesthetics
cef-	cef-	antibiotics, derivatives of cefalosporanic acid
-cillinum	-cillin	antibiotics, derivatives of 6-aminopenicillanic acid
-conazolum	-conazole	systematic antifungal agents of the miconazole group
cort	cort	corticosteroids, except those of the prednisolone group
-dipinum	-dipine	calcium antagonists of the nifedipine group
-fibratum	-fibrate	substances of the clofibrate group
gest	gest	steroids, progestogens
gli-	gli-	sulfonamide hypoglycemics
io-	io-	iodine-containing contrast media
-ium	-ium	quaternary ammonium compounds
-metacinum	-metacin	anti-inflammatory substances of the indometacin group
-mycinum	-mycin	antibiotics, produced by *Streptomyces* strains
-nidazolum	-nidazole	antiprotozoal substances of the metronidazole group
-ololum	-olol	β-adrenergic blocking agents
-oxacinum	-oxacin	antibacterial agents of the nalidix acid group
-pridum	-pride	sulpiride derivatives
-pril(at)um	pril(at)	angiotensin-converting enzyme inhibitors
-profenum	-profen	anti-inflammatory substances of the ibuprofen group
prost	prost	prostaglandins
-relinum	-relin	hypophyseal hormone release-stimulating peptides
terolum	-terol	bronchodilators, phenethylamine derivates
tidinum	-tidine	H_2-receptor antagonists
-trexatum	-trexate	folic acid antagonists
-verinum	-verine	spasmolytics with a papaverine-like action
vin-	vin-	vinca type alkaloids
-vin-	-vin-	

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

Annex 2
NONPROPRIETARY NAMES FOR PHARMACEUTICAL SUBSTANCES: TWENTIETH REPORT OF THE WHO EXPERT COMMITTEE

In its twentieth report[1] the WHO Expert Committee on Nonproprietary Names for Pharmaceutical Substances reviewed the general principles for devising, and the procedures for selecting, international nonproprietary names (INN) in the light of developments in pharmaceutical compounds in recent years. The most significant recent change has been the extension to the naming of synthetic chemical substances of the practice previously used for substances originating in or derived from natural products. This practice involves employing a characteristic "stem" indicative of a common property of the members of a group. The reasons for, and the implications of, the change are fully discussed. Also reported is the intention to change the practice with regard to the nomenclature of individual members of polymeric series.

Other sections of the report concern instructions to be followed by bodies making application for international nonproprietary names, the availability of computer-printed cumulative lists of international nonproprietary names, information supplied by WHO Member States concerning their official use of national or international names for pharmaceutical products, and proposals relative to the withdrawal of international nonproprietary names allocated to substances that are no longer in use.

The official texts relating to the procedures for selecting, and general guidance for devising, international nonproprietary names are reproduced in two annexes to the report. Other annexes give examples of international nonproprietary names that incorporate selected stems, the most frequently used initial groups of letters in international nonproprietary names, a historical review of the programme of selecting international nonproprietary names, some useful literature references, and a model of the form to be used in all applications for international nonproprietary names.

[1] WHO Technical Report Series, No. 581, 1975 (*Nonproprietary Names for Pharmaceutical Substances* Twentieth Report of the WHO Expert Committee), ISBN 92 4 120581 4. Price: Sw. fr. -