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, 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. I.N.N.): LIST 24

- acidum lozamicium
- lozamic acid

Chemical Name or Description, Molecular and Graphic Formula

\[3,3'-(\text{tetramethylethene}[\text{oxy}(2\text{-hydroxytrimethylene})(\text{acetilimino})]_2-\text{bis}[2,4,6\text{-trifluoro}-3-(\text{N-methylacetamido})\text{benzoic}}\text{acid]}\]

\[\text{C}_{15}\text{H}_{16}\text{N}_{4}\text{O}_{7}\]

- acidum mycophenolicum
- mycophenolic acid

Chemical Name or Description, Molecular and Graphic Formula

\[(\text{E})-5-(\text{4-hydroxy-6-methoxy-7-methyl-3-oxo-5-phthalanyl})\text{-4-methyl-4-hexenoic}}\text{acid}\]

\[\text{C}_{20}\text{H}_{22}\text{O}_{5}\]

1 See Ammon, p. 24.
<table>
<thead>
<tr>
<th>Proposed International Nonproprietary Name (Latin, English)</th>
<th>Chemical Name or Description, Molecular and Graphic Formule</th>
</tr>
</thead>
<tbody>
<tr>
<td>acidum polyglycolicum polyglycolic acid</td>
<td>poly(oxycarbonylmethylene) ((\text{C}_2\text{H}_2\text{O}_3)_n)</td>
</tr>
<tr>
<td></td>
<td>(-\text{O}−\text{C}−\text{CH}_2−\text{H}_n)</td>
</tr>
<tr>
<td>acidum tofenamicum tofenamic acid</td>
<td>(N)-(3-chloro-otoly)anthranilic acid (\text{C}<em>{16}\text{H}</em>{14}\text{ClNO}_2)</td>
</tr>
<tr>
<td></td>
<td>(\text{COOH} \quad \text{NH} \quad \text{CH}_3 \quad \text{Cl} )</td>
</tr>
<tr>
<td>almestronum almestrone</td>
<td>3-hydroxy-7α-methyl[6,5(10)-trien-17-one (\text{C}<em>{19}\text{H}</em>{20}\text{O})</td>
</tr>
<tr>
<td></td>
<td>(\text{HO} \quad \text{C} \quad \text{CH}_3 \quad \text{CH}_3 \quad \text{O} )</td>
</tr>
<tr>
<td>bactofenem bactofen</td>
<td>8-(\text{aminomethyl})-(\text{p})-chlorohydrocinnamic acid (\text{C}<em>{19}\text{H}</em>{21}\text{ClNO}_3)</td>
</tr>
<tr>
<td></td>
<td>(\text{H}_2\text{N}−\text{CH}_2−\text{CH}−\text{CH}_2−\text{COOH} \quad \text{Cl} )</td>
</tr>
<tr>
<td>bekanamycinum bekanamycin</td>
<td>kanamycin B or L-O-3-amino-3-deoxy-\alpha-D-glucopyranosyl-(1-4)-O-[2,6-diamino-2,6-dideoxy-\alpha-D-glucopyranosyl-(1-6)]-2-deoxystrept-amine (\text{C}<em>{63}\text{H}</em>{86}\text{N}<em>{16}\text{O}</em>{18})</td>
</tr>
<tr>
<td></td>
<td>(\text{HO} \quad \text{CH}_2\text{OH} \quad \text{C} \quad \text{NH} \quad \text{CH}_2\text{NH}_2 \quad \text{NH}_2 \quad \text{OH} \quad \text{OH} \quad \text{OH} \quad \text{OH} \quad \text{NH}_2 )</td>
</tr>
</tbody>
</table>
**Proposed International Nonproprietary Name (Latin, English)**

**Chemical Name or Description, Molecular and Graphic Formulas**

bitipazonum
bitipazone

2,3-butanedione bis[(2-(2-piperidinoethyl])thiosemicarbazone]
$\text{C}_{16}\text{H}_{11}\text{N}_{3}\text{S}_{2}$

\[
\begin{align*}
\text{H}_3\text{C} & \quad \text{CH}_3 \\
\text{N} & \quad \text{CS} & \quad \text{NH} & \quad \text{N} & \quad \text{C} & \quad \text{C} & \quad \text{N} & \quad \text{NH} & \quad \text{CS} & \quad \text{NH} \\
\text{CH}_2 & \quad \text{CH}_2 & \quad \text{H} & \quad \text{N} & \quad \text{CH}_2 \\
\end{align*}
\]

brotilanidum
brotilanide

3,4'-dibromo-5-chlorothio salicylanilide acetate (ester)
$\text{C}_{11}\text{H}_{8}\text{BrClN}_{3}\text{O}_{3}\text{S}$

\[
\begin{align*}
\text{Br} & \quad \text{O} & \quad \text{CO} & \quad \text{CH}_3 \\
\text{Cl} & \quad \text{Br} \\
\end{align*}
\]

bumadizonum
bumadizone

butylinalonic acid mono(1,2-diphenylhydrazide)
$\text{C}_4\text{H}_{10}\text{N}_2\text{O}_3$

\[
\begin{align*}
\text{CO} & \quad \text{N} \\
\text{H}_3\text{C}_4 & \quad \text{CH} & \quad \text{NH} & \quad \text{H} & \quad \text{COOH} \\
\end{align*}
\]

bumelanidum
bumelanide

3-(butylamino)-4-phenoxy-5-sulfomethyl benzoic acid
$\text{C}_9\text{H}_8\text{N}_2\text{O}_4\text{S}$

\[
\begin{align*}
\text{COOH} \\
\text{H}_2\text{N} & \quad \text{O}_2\text{S} & \quad \text{NH} & \quad \text{C}_4\text{H}_9 \\
\end{align*}
\]
<table>
<thead>
<tr>
<th>Proposed International Nonproprietary Name (Latin, English)</th>
<th>Chemical Name or Description, Molecular and Graphic Formulae</th>
</tr>
</thead>
<tbody>
<tr>
<td>cambendazolium</td>
<td>isopropyl 2-(4-thiazolyl)-5-benzimidazolocarbamate $\text{C}_9\text{H}_6\text{N}_4\text{O}_5\text{S}$</td>
</tr>
<tr>
<td>cambendazole</td>
<td><img src="" alt="Chemical Structure of Cambendazole" /></td>
</tr>
<tr>
<td>carmustinum</td>
<td>1,3-bis(2-chloroethyl)-1-nitrosourea $\text{C}_7\text{H}_8\text{Cl}_2\text{N}_2\text{O}_2$</td>
</tr>
<tr>
<td>carmustine</td>
<td><img src="" alt="Chemical Structure of Carmustine" /></td>
</tr>
<tr>
<td>carperonum</td>
<td>isopropylcarbamic acid ester with 4'-fluoro-4-(4-hydroxypiperidino)butyrophenone $\text{C}<em>{20}\text{H}</em>{21}\text{FNO}_3$</td>
</tr>
<tr>
<td>carperone</td>
<td><img src="" alt="Chemical Structure of Carperone" /></td>
</tr>
<tr>
<td>chloromerodrin ([<strong>1</strong>Hg])</td>
<td>[3-chloromercuric-<strong>1Hg</strong>]-2-methoxypropyl]urea $\text{C}<em>{17}\text{H}</em>{17}\text{HgN}_2\text{O}_3$</td>
</tr>
<tr>
<td>chloromerodrin ([<strong>1</strong>Hg])</td>
<td><img src="" alt="Chemical Structure of Chloromerodrin" /></td>
</tr>
<tr>
<td>cinmetacinum</td>
<td>1-cinnamoyl-5-methoxy-2-methylindole-3-acetic acid $\text{C}<em>{21}\text{H}</em>{23}\text{NO}_4$</td>
</tr>
<tr>
<td>cinmetacin</td>
<td><img src="" alt="Chemical Structure of Cinmetacin" /></td>
</tr>
<tr>
<td>Proposed International Nonproprietary Name (Latin, English)</td>
<td>Chemical Name or Description, Molecular and Graphic Formulse</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>clonobutinum clonobutin</td>
<td>4-[p-chloro-N-(p-methoxyphenyl)benzamido]butyric acid $C_{21}H_{14}ClNO_5$</td>
</tr>
</tbody>
</table>
| | $\begin{array}{c}
\text{OCH}_3 \\
\text{N}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{COOH} \\
\text{Cl}
\end{array}$ |
| clantifenum clantifen | 4-(2,6-dichloroanilino)-3-thiophenecarboxylic acid $C_{17}H_{12}ClNO_5S$ |
| | $\begin{array}{c}
\text{Cl} \\
\text{N} \\
\text{S} \\
\text{COOH} \\
\text{Cl}
\end{array}$ |
| clenpirinum clenpirin | 1-butyl-0-[(3,4-dichlorophenyl)imino]pyrrolidine $C_{16}H_{16}ClN_2$ |
| | $\begin{array}{c}
\text{Cl} \\
\text{Cl} \\
\text{N} \\
\text{C}_4\text{H}_9
\end{array}$ |
| clobenosidum clobenoside | ethyl 5,6-bis-O-(p-chlorobenzyl)-3-O-propyl-D-glucofuranoside $C_{29}H_{34}Cl_2O_6$ |
| | $\begin{array}{c}
\text{Cl} \\
\text{CH}_2-O-\text{C}_3\text{H}_7 \\
\text{CH}_2-O-\text{HO} \\
\text{OC}_2\text{H}_5 \\
\text{Cl}
\end{array}$ |
clofazimine
1-[(o-chloro-o-c-diphenylbenzyl)imidazole

\[
\begin{align*}
\text{Chemical Name or Description,} \\
\text{Molecular and Graphic Formula} \\
\end{align*}
\]

clofazimide
CuH\textsubscript{12}CN\textsubscript{5}

codacte
dum
dodecyl

cyanocobalamin (1\textsuperscript{5}Co)
cyano
cobalamin (1\textsuperscript{3}Co)

\[
\begin{align*}
\text{Chemical Name or Description,} \\
\text{Molecular and Graphic Formula} \\
\end{align*}
\]

cyanocobalamin (1\textsuperscript{5}Co)
cyanocobalamin (1\textsuperscript{3}Co)

\[
\begin{align*}
\text{Chemical Name or Description,} \\
\text{Molecular and Graphic Formula} \\
\end{align*}
\]

decimemide
4-(decyloxy)-3,5-dimethoxybenzamide

\[
\begin{align*}
\text{Chemical Name or Description,} \\
\text{Molecular and Graphic Formula} \\
\end{align*}
\]
proposed international nonproprietary name
(latín, inglés)

chemical name or description,
molecular and graphic formula

**dellantrinum**

dellantrine

\( N^3,N^3 \text{-dimethyl-3-[(4-methyl-1-piperazinyl)carbonyl]sulfanilamide} \)

\( \text{C}_{16}\text{H}_{24}\text{N}_{2}\text{O}_{4}\text{S} \)

**demegestonum**

demegestone

\( 17\text{-methyl-19-norpregna-4,9-diene-3,20-dione} \)

\( \text{C}_{21}\text{H}_{30}\text{O}_{2} \)

**denpidazonum**

denpidazone

\( 4\text{-butyl-1,2-dihydro-5-hydroxy-1,2-diphenyl-3,6-pyridazinedione} \)

\( \text{C}_{23}\text{H}_{24}\text{N}_{2}\text{O}_{5} \)

**desonidum**

desonide

\( 11β,16α,17,21\text{-tetrahydroxyprogna-1,4-diene-3,20-dione cyclic} \)

\( 16,17\text{-acetal with acetone} \)

\( \text{C}_{21}\text{H}_{28}\text{O}_{6} \)
dibusadol

\[ \text{N-}[4-(\text{diethylamino})\text{butyl}]/\text{saliicyamide acetae (ester)}\]
\[\text{C}_{17}\text{H}_{23}\text{N}_{2}\text{O}_{3}\]

\[\text{CO} - \text{NH} - (\text{CH}_2)_4 - \text{N}[\text{C}_2\text{H}_5]_2\]
\[\text{O} - \text{CO} - \text{CH}_3\]

dimepregnen

\[3\beta\text{-hydroxy-6a,16a-dimethylprogn-4-en-20-one}\]
\[\text{C}_{29}\text{H}_{40}\text{O}_1\]

\[\text{CH}_3\]
\[\text{CH}_3\]
\[\text{CO}\]
\[\text{CH}_3\]
\[\text{H}_2\text{C}\]
\[\text{HO}\]
\[\text{CH}_3\]

dotefonil bromidum

dotefonium bromide

\[1\text{-methyl-1-[2-(N\text{-methyl}-2\text{-thienyl}]/}\text{mandelamido)ethyl}]/\text{pyrrolidininium}\]
\[\text{Br}^-\]

\[\text{C}_{22}\text{H}_{24}\text{BrN}_{3}\text{O}_{2}\]

drazidoxum

drazidox

\[3\text{-methyl-2-quinoxalinecarboxylic acid hydrazido 1,4-dioxide}\]
\[\text{C}_{11}\text{H}_{11}\text{N}_{3}\text{O}_{2}\]

\[\text{N} - \text{O}\]
\[\text{CO} - \text{NH} - \text{N} - \text{H}_2\]
<table>
<thead>
<tr>
<th>Proposed International Nonproprietary Name (Latin, English)</th>
<th>Chemical Name or Description, Molecular and Graphic Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>etasulimum etasuline</td>
<td>5-chloro-2-(ethylamino)-4-phenyl-4H-3,1-benzothiazine C₄₉H₃₅ClN₅S</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Chemical Structure" /></td>
</tr>
<tr>
<td>etifoxinimum etifoxine</td>
<td>6-chloro-2-(ethylamino)-4-methyl-4-phenyl-4H-3,1-benzoxazine C₄₉H₃₅ClN₅O</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Chemical Structure" /></td>
</tr>
<tr>
<td>fendilimum fendiline</td>
<td>N-(3,3-diphenylpropyl)-α-methylbenzylamine C₄₉H₄₄N</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Chemical Structure" /></td>
</tr>
<tr>
<td>ferric citrate (²⁵⁷Fe) injection ferric citrate (²⁵⁷Fe) injection</td>
<td>a sterile solution containing radioactive iron (²⁵⁷Fe) in the ferric state, 1 per cent w/v of sodium citrate, and sufficient sodium chloride to make the solution isotonic with blood</td>
</tr>
<tr>
<td>flamenol</td>
<td>5-methoxyresorcinol C₇H₆O₃</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Chemical Structure" /></td>
</tr>
</tbody>
</table>
floctafeninum
floctafenine

2,3-dihydroxypropyl N-[8-(trifluoromethyl)-4-quinolyl]anthranilate
C\text{\textsubscript{2}}H\text{\textsubscript{1}}H\text{\textsubscript{1}}F\text{\textsubscript{3}}N\text{\textsubscript{3}}O\text{\textsubscript{3}}

\[
\begin{array}{c}
\text{CF}_3 \\
\text{NH} \\
\text{O} \\
\end{array}
\begin{array}{c}
\text{CO-CH}_2-\text{CH}_2\text{OH} \\
\end{array}
\]

flunitrazepam
flunitrazepam

5-(\text{\textalpha-}fluorophenyl)-1,3-dihydro-1-methyl-7-nitro-2H-1,4-
benzodiazepin-2-one
C\text{\textsubscript{1}}H\text{\textsubscript{1}}\text{H}_\text{2}F\text{\textsubscript{3}}N\text{\textsubscript{3}}O\text{\textsubscript{3}}

\[
\begin{array}{c}
\text{H}_\text{2}C \\
\text{O} \\
\end{array}
\begin{array}{c}
\text{N} \\
\text{O}_\text{2}N \\
\end{array}
\begin{array}{c}
\text{F} \\
\end{array}
\]

glidazamidum
glidazamide

1-(hexahydro-1H-azepin-1-yl)-3-(5-indansulfonyl)urea
C\text{\textsubscript{1}}H\text{\textsubscript{1}}\text{H}_\text{5}N\text{\textsubscript{3}}O\text{\textsubscript{3}}S

\[
\begin{array}{c}
\text{O}_\text{S} \\
\text{NH-CO-} \\
\text{NH} \\
\end{array}
\begin{array}{c}
\text{N} \\
\end{array}
\]

glisoxepidum
glisoxepide

1-(hexahydro-1H-azepin-1-yl)-3-[[\text{\textbeta-}[2-(5-methyl-3-
isoxazolecarboxamido)ethyl]phenyl]sulfonyl]urea
C\text{\textsubscript{1}}H\text{\textsubscript{1}}\text{H}_\text{5}N\text{\textsubscript{3}}O\text{\textsubscript{3}}S

\[
\begin{array}{c}
\text{H}_\text{2}C \\
\text{S}_\text{O}_\text{2} - \text{NH-CO-} \\
\text{NH} \\
\end{array}
\begin{array}{c}
\text{O} \\
\text{N} \\
\text{CO} \\
\text{NH-CH}_2-\text{CH}_2 \\
\end{array}
\]
imidocarb

3,3'-di-2-imidazolin-2-ylcarbamide
\( \text{C}_9\text{H}_8\text{N}_2\text{O} \)

\[
\begin{array}{c}
\text{N} \quad \text{H} \\
\text{O} \quad \text{N}
\end{array}
\]

iometinum \( (^{131}\text{I}) \)
iometin \( (^{125}\text{I}) \)

4-[[3-(dimethylamino)propyl]-amino]-7-iodoquinoline in which a portion of the molecules contain radioactive iodine \( (^{131}\text{I}) \)
\( \text{C}_9\text{H}_{11}\text{N}_2\)

\[
\begin{array}{c}
\text{N} \\
\text{H} - \{\text{CH}_2\}_3 - \text{N}(\text{CH}_3)_2
\end{array}
\]

iometinum \( (^{131}\text{I}) \)
iometin \( (^{125}\text{I}) \)

4-[[3-(dimethylamino)propyl]-amino]-7-iodoquinoline in which a portion of the molecules contain radioactive iodine \( (^{131}\text{I}) \)
\( \text{C}_9\text{H}_{11}\text{N}_2\)

\[
\begin{array}{c}
\text{N} \\
\text{H} - \{\text{CH}_2\}_3 - \text{N}(\text{CH}_3)_2
\end{array}
\]

isoprednidenum
isoprednide

11β,17,21-trihydroxy-16-methylonepregna-4,6-diene-3,20-dione
\( \text{C}_{33}\text{H}_{44}\text{O}_6 \)

\[
\begin{array}{c}
\text{O} \\
\text{O} \\
\text{CH}_2\text{OH} \\
\text{H}_2\text{C} \quad \text{O} \\
\text{H}_2\text{C} \quad \text{O} \\
\text{H}_2\text{C} \quad \text{O}
\end{array}
\]
<table>
<thead>
<tr>
<th>Proposed Internations</th>
<th>Nonproprietary Name</th>
<th>Chemical Name or Description, Molecular and Graphic Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>iopramine</td>
<td>iopromide</td>
<td>4'-chloro-2-[[3-(10,11-dihydro-5H-dibenzo[b,f]azepin-8-yl)propyl]-methylamino]acetophene</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C_{15}H_{22}ClN_{2}O_{2}</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="iopromide structure" /></td>
</tr>
<tr>
<td>lorlamatum</td>
<td>lorlamine</td>
<td>2-(hydroxymethyl)-2-methylpentyl cyclopropanecarbamate carbamate (astor)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C_{15}H_{20}N_{2}O_{4}</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="lorlamine structure" /></td>
</tr>
<tr>
<td>mannosulfanum</td>
<td>mannosulfan</td>
<td>D-mannitol 1,2,5,6-tetramethanesulfonate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C_{16}H_{24}O_{6}S_{4}</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="mannosulfan structure" /></td>
</tr>
<tr>
<td>mebendazolum</td>
<td>mebendazole</td>
<td>methyl 5-benzoyl-2-benzimidazolecarbamate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C_{16}H_{17}N_{2}O_{3}</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="mebendazole structure" /></td>
</tr>
</tbody>
</table>
meptiprazole
1-(m-chlorophenyl)-4-[2-(5-methylpyrazol-3-yl)methyl]piperazine
C_{19}H_{19}ClN_{4}

meptiprenaline
α-[((isopropylamino)methyl]vanillyl alcohol
C_{19}H_{24}NO_{3}

mitosperum
an antineoplastic antibiotic obtained from cultures of an Aspergillus of the glaucus group, or the same substance obtained by any other means

moxestrol
11β-methoxy-19-nor-17α-pregna-1,3,5(10)-trien-20-yne-3,17-diol
C_{31}H_{42}O_{3}

nafenopin
2-methyl-2-[p-(1,2,3,4-tetrahydro-1-naphthyl)phenoxy]propionic acid
C_{21}H_{20}O_{3}
natrī iōdium (131I)
sodium iodate (131I)

radioactive sodium iodide (131I)
Nal

natrī iodohippurās (131I)
sodium iodohippurate (131I)

sodium o-iodohippurate in which a portion of the molecules contain radioactive iodine (131I)
C₉H₈I₃NaO₅

niaprazinum
niaprazine

N-[3-[4-(o-fluorophenyl)-1-piperazinyl]-1-methylpropyl]nicotinamide
C₂₃H₂₉FN₄O

niufunginum
niufungin

an antifungal antibiotic obtained from cultures of Aspergillus gigan-
teus, or the same substance obtained by any other means

niufuratronum
niufuratrone

N-(2-hydroxyethyl)-α-(5-nitro-2-furyl)nitroge
C₈H₈N₂O₣

nivacortolum
nivacortol

2'-[o-fluorophenyl]-2'H-17a-pregn-2,4-dien-20-ylo[3,2-c]pyrazol-17-ol
C₂₆H₂₉FN₂O
<table>
<thead>
<tr>
<th>Nonproprietary Name (Latin, English)</th>
<th>Chemical Name or Description, Molecular and Graphic Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>nomifensinum</td>
<td>8-amino-1,2,3,4-tetrahydro-2-methyl-4-phenylisoquinoline</td>
</tr>
<tr>
<td>nomifensine</td>
<td>C_{19}H_{19}N_{4}</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Nomifensine Structure" /></td>
</tr>
<tr>
<td>orangamidum</td>
<td>5-aminoimidazole-4-carboxamide orotate</td>
</tr>
<tr>
<td>orazamide</td>
<td>C_{19}H_{19}N_{4}O; C_{19}H_{19}N_{4}O_{4}</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Orazamide Structure" /></td>
</tr>
<tr>
<td>panidazolom</td>
<td>4-[(2-(2-methyl-5-nitroimidazol-1-yl)ethyl]pyridine</td>
</tr>
<tr>
<td>panidazole</td>
<td>C_{19}H_{19}N_{4}O</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Panidazole Structure" /></td>
</tr>
<tr>
<td>pendecaminum</td>
<td>(carboxymethyl)dimethyl(3-palmitamidopropyl)ammonium hydroxide</td>
</tr>
<tr>
<td>pendecamine</td>
<td>inner salt</td>
</tr>
<tr>
<td></td>
<td>C_{19}H_{19}N_{4}O</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Pendecamine Structure" /></td>
</tr>
</tbody>
</table>
Proposed International Nonproprietary Name (Latin, English)  
Chemical Name or Description, Molecular and Graphic Formulas

penfluridolum  
penfluridol  

4-(4-chloro-o,p,q-trifluoro-m-toly)-1-[4,4-bis(p-fluorophenyl)butyl]-
4-piperidinol  
C₁₈H₁₉ClF₅NO

polihexanidum  
polihexanide  

poly(iminoimidocarbonyliminoimidocarbonyliminohexamethylene monohydrochloride)  
(C₄H₁₁N₅.HCl)₆

pranosalum  
pranosal  

2,5-dimethyl-1-pyrrolidinepropanol salicylate (ester)  
C₁₅H₂₄NO₃

probucolum  
probucol  

acetone bis(3,5-di-tert-buty-4-hydroxyphenoxy)mercaptole  
C₁₇H₁₄O₇S₂
proxibutenum
proxibutene

3-[(dimethylamino)methyl]-1,2-diphenyl-3-buten-2-ol propionate (ester)
C_{30}H_{28}NO_{3}

prooxidezonum
proxidezone

(+)-4-(dimethylamino)-3-methyl-1,2-diphenyl-2-butenol propionate (ester) compound with 4-butyl-1,2-diphenyl-3,5-pyrazolidinedione (1:1)
C_{37}H_{35}NO_{5}

rafexanidum
rafexanide

3'-chloro-4'-(p-chlorophenoxy)-3,5-diodosalicylanilide
C_{25}H_{18}Cl_{3}I_{2}NO_{3}

<table>
<thead>
<tr>
<th>Proposed International Nonproprietary Name (Latin, English)</th>
<th>Chemical Name or Description, Molecular and Graphic Formulas</th>
</tr>
</thead>
<tbody>
<tr>
<td>rose Bengal sodium ((^{131}I))</td>
<td>disodium 4,5,7-trichloro-2',4',5',7'-tetraiodofluorescein in which a portion of the molecules contain radioactive iodine ((^{131}I)) (\text{C}_2\text{H}_5\text{Cl}_6\text{Na}_2\text{I}_2\text{O}_7)</td>
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</table>

![Chemical structure of disodium 4,5,7-trichloro-2',4',5',7'-tetraiodofluorescein](image1)

<table>
<thead>
<tr>
<th>seroalbuminum humanum iodinatum ((^{131}I))</th>
<th>human serum albumin iodinated with radioactive iodine ((^{131}I))</th>
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<tbody>
<tr>
<td>human serum albumin iodinated with radioactive iodine ((^{131}I))</td>
<td></td>
</tr>
</tbody>
</table>

| sulfatrazole | \(N'\)-(4-ethoxy-1,2,5-thiadiazol-3-yl)sulfanilamide \(\text{C}_6\text{H}_4\text{N}_2\text{O}_4\text{S}_2\) |

![Chemical structure of N'-(4-ethoxy-1,2,5-thiadiazol-3-yl)sulfanilamide](image2)

| suxibuzonum | 4-butyl-4-[(hydroxymethyl)-1,2-diphenyl-3,5-pyrazolidinedione hydrogen succinate (ester) \(\text{C}_2\text{H}_6\text{N}_2\text{O}_4\) |

![Chemical structure of 4-butyl-4-[(hydroxymethyl)-1,2-diphenyl-3,5-pyrazolidinedione](image3)
tetracitinum

tetracitin

2-(5,8,7,6-tetrahydro-1-naphthyl)methyl]-2-imidazoline
C_{6}H_{14}N_{2}

2,7-bis[(3-diethylamino)ethoxy]fluoren-9-one
C_{22}H_{26}N_{2}O_{3}

tosactidum

tosactide

C_{6}H_{30}N_{12}O_{23}S

trantalinil bromidum

transtalinium bromide

8-methyltropolinium bromide xanthene-9-carboxylate
C_{11}H_{13}BrNO_{3}

\[ \left[ \left( \text{H}_3\text{C} \right)_2\text{N} \right] \left\{ \begin{array}{c}
\text{O} \\
\text{CO}
\end{array} \right\} \] \text{Br}^{-}

trabulonum

trenbolone

17\beta-hydroxyestr-4,9,11-trien-3-one
C_{20}H_{26}O_{3}

xenon (\(^{133}\)Xe)

radioactive xenon (\(^{133}\)Xe)
Xe
Names for Radicals and Groups

Some preparations 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. The following shorter nonproprietary names for some such radicals and groups have been devised or selected, and they are suggested for use with the proposed international nonproprietary names.

3,7-di-tert-butyl-1,5-naphthalenedisulfonate
\( \text{C}_{16}\text{H}_{22}\text{O}_{8}\text{S}_{2}^{\text{2-}} \)

bunapsilate

\[\text{SO}_2\cdot\text{O}^\ominus \quad \Theta\cdot\text{SO}_2 \]

\( \text{C}(\text{CH}_3)_2 \)

\( \text{H}_3\text{C}_3\text{C} \)

\( \text{o-}[2'\text{-hydroxy-4-biphenylyl}]\text{carbonyl}][\text{benzoate}]
\( \text{C}_{16}\text{H}_{16}\text{O}_5\text{O}^\ominus \)

fendizoate

\[\text{COO}^\ominus \quad \text{CO} \quad \text{OH} \quad \text{CO} \]

\( \text{C}(\text{H}_2)_{\text{11}}\text{H} \)

\( \text{H}_3\text{C}_\Theta \)

\( \text{o-dodecylsulfate} \)
\( \text{C}_{21}\text{H}_{44}\text{O}_3\text{S}^{-} \)

isursilsulfate

\( \text{H}_3\text{C}_\Theta \cdot(\text{CH}_2)_{\text{11}}\text{O}^\ominus \cdot\text{SO}_2\cdot\text{O}^\ominus \)
AMENDMENTS TO PREVIOUS LISTS

Vol. 21, No. 11

**Proposed International Nonproprietary Names (Prop. I.N.N.): List 18**

p. 490:  
*delete*
  
natrii radioidotalamas (¹¹¹I)  
sodium radioidotalamate (¹¹¹I)  
*insert*
  
natrii iodotalamas (¹¹¹I)  
sodium iodotalamate (¹¹¹I)

p. 491:  
*delete*
  
natrii radioidotalamas (¹¹¹I)  
sodium radioidotalamate (¹¹¹I)  
*insert*
  
natrii iodotalamas (¹¹¹I)  
sodium iodotalamate (¹¹¹I)

p. 495:  
*delete*
  
radiocesii chloridum (¹³³Cs)  
radiocesium chloride (¹³³Cs)  
*insert*
  
cesii (¹³³Cs) chloridum  
cesium (¹³³Cs) chloride

Vol. 22, No. 3

**Proposed International Nonproprietary Names (Prop. I.N.N.): List 19**

p. 119:  
*delete*
  
kellofyllinum  
kellofylline  
*insert*
  
vinafylinum  
vinafyline

Vol. 23, No. 9

**Proposed International Nonproprietary Names (Prop. I.N.N.): List 22**

p. 428:  
*delete*
  
cecinanum  
cecinamine  
*insert*
  
etifelminum  
etifelmine

p. 432:  
*delete*
  
laramycinum  
laramycin  
*insert*
  
an antibiotic obtained from cultures of *Streptomyces bikiniensis* var. *laranensis*, or the same substance obtained by any other means

Vol. 24, No. 3

**Proposed International Nonproprietary Names (Prop. I.N.N.): List 23**

p. 131:  
*delete*
  
mofedonum  
mofedone  
*insert*
  
oxazidionum  
oxazidone
**INTERNATIONAL NONPROPRIETARY NAMES FOR PHARMACEUTICAL PREPARATIONS**

**CUMULATIVE LIST No. 2, 1967**

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<td>natrii chromas (¹⁰⁷Cr)</td>
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<td>sodium phosphate (³²P)</td>
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<td>aurum (¹⁹⁷Au) colloidal</td>
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<td>radioselenomethioninum (³⁵Se)</td>
<td>selenomethioninum (³⁵Se)</td>
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<td>radioselenomethione (³⁵Se)</td>
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<td>triroleandomycin</td>
</tr>
</tbody>
</table>
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 Pharmacopoeias 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 Organization¹ 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 pre-

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

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

   The above 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, syllables such as "methylhydro" and "chlor" should preferably be abbreviated, for example, to "medro", "meto", and "clo"; the derived name should not be chemically misleading.

5. In the naming of substances which are acids, existing names generally used in chemistry which include the word "acidum" ("acid") should be used, if the name is adequate for practical use in therapy and pharmacy. In other circumstances, the substance should be named by a single word and not by a name which includes the word "acid". Where the word "acid" is not used in the name, as is customary in the penicillin series, a salt should preferably be named without modification of the parent acid name, e.g., "oxacillin" and "oxacillin sodium".

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 general chemical syllables. Should they come into conflict with other suggested syllables, the suffix conveying the best information should be used.

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<td>or -stan-</td>
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Synthetic polypeptides with a corticotrophin-like action
Steroids, androgenic
Anticoagulants of the coumarin type
Tranquilizers of the propanediol and pentanediol series
Barbituric acids, hypnotic activity
Anabolic steroids
Local anesthetics
Antibiotics with cephalosporanic acid nucleus
Penicillins: derivatives of carboxy-β-amino-penicillic acid
Steroids, glucocorticoids and mineralocorticoids, other than prednisolone derivatives
Acridine derivatives
Curare-like drugs
Antibiotics, tetracycline derivatives
Estrogenic drugs
Guanidine oral antidiabetics
Steroids, progestative
Sulfonamide oral antidiabetics
Iodine-containing contrast media
Mercury-containing drugs, antimicrobial or diuretic
Monoamine oxidase inhibitors
Antimicrobial antibiotics, produced by Streptomyces strains
5-nitrofuran derivatives
Anorexigenic agents
Derivatives of *Panax* alkaloids
Sulfonamides, used as antimicrobials
Diuretics which are thiazide derivatives
Antiepileptics which are hydantoin derivatives
Spasmolytics with a papaverine-like action
Alkaloids and organic bases
Ketones
Quaternary amines