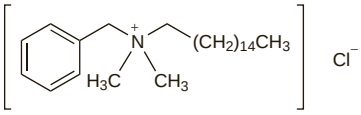
Cetalkonium Chloride *(BAN, USAN, rINN)*

Cetalkonii Chloridum; Cétalkonium, Chlorure de; Cloruro de cetalconio; NSC-32942. Benzylhexadecyldimethylammonium chloride.

Цеталкония Хлорид

$C_{25}H_{46}ClN$ = 396.1.

CAS — 122-18-9.



Profile

Cetalkonium chloride is a quaternary ammonium antiseptic with actions and uses similar to those of other cationic surfactants (see Cetrimide, p.1634). It is used in a variety of topical preparations in the treatment of minor infections of the mouth and throat. It has also been used in the treatment of eye infections. Cetalkonium bromide has also been used.

Preparations

Proprietary Preparations (details are given in Part 3)

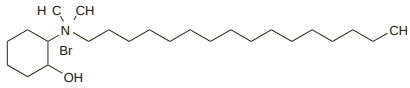
Multi-ingredient: ***Arg.:*** Pansoral; ***Austral.:*** Bonjela; ***Austria:*** Mundisal; ***Braz.:*** Pondicilina; ***Canad.:*** Bionet; ***Cz.:*** Mundisal; ***Fr.:*** Pansoral; ***Ger.:*** Mundisal†; ***Gr.:*** Mundisal; ***Hong Kong:*** Bonjela; ***Hung.:*** Mundisal; ***Irl.:*** Bonjela; ***Israel:*** Baby Gum; Bonjela; ***Malaysia:*** Bonjela; ***NZ:*** Bonjela; ***Pol.:*** Sachol zel Stomatologiczny; ***Rus.:*** Cholisal (Холисал); Pansoral (Пансорал); ***S.Afr.:*** AAA†; Bonjela; ***Singapore:*** Bonjela; ***Switz.:*** Mundisal; Pansoral; Tenderdol; ***Thai.:*** Bonjela; ***UK:*** Bonjela; Bonjela Teething Gel; ***USA:*** Babee.

Cethexonium Bromide

Cetexonio, bromuro de. Hexadecyl(2-hydroxycyclohexyl)dimethylammonium bromide.

$C_{24}H_{50}BrNO$ = 448.6.

CAS — 6810-42-0 (cethexonium); 1794-74-7 (cethexonium bromide); 58703-78-9 (cethexonium chloride).



NOTE. Cethexonium Chloride is *rINN*.

Profile

Cethexonium bromide is a quaternary ammonium antiseptic with properties similar to those of other cationic surfactants (see Cetrimide, p.1634). It is used in preparations for the local treatment of minor infections of the eye, nose, and throat.

Preparations

Proprietary Preparations (details are given in Part 3)
Fr.: Biocidan.

Multi-ingredient: ***Fr.:*** Biocidan.

Cetrimide *(BAN, rINN)*

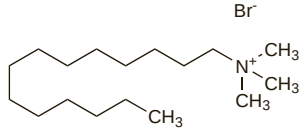
Cetrimid; Cetrimida; Cetrimidas; Cétrimide; Cetrimidum; Cetrymid; Setrimid; Setrimidi.

Цетримид

CAS — 1119-97-7 (trimethyltetradecylammonium bromide); 1119-94-4 (dodecyltrimethylammonium bromide); 8044-71-1 (cetrimide).

ATC — D08AJ04; D11AC01.

ATC Vet — QD08AJ04; QD11AC01.



(trimethyltetradecylammonium bromide)

NOTE. The name cetrimonium bromide was often formerly used for cetrimide. Cetrimonium bromide (see below) is hexadecyltrimethylammonium bromide.

Pharmacopoeias. In *Eur.* (see p.vii) and *Int. Br.* also includes strong cetrimide solution.

Ph. Eur. 6.2 (Cetrimide). It consists of trimethyltetradecylammonium bromide (=tetradonium bromide (*rINN*)) and may contain smaller amounts of dodecyltrimethylammonium bromide and hexadecyltrimethylammonium bromide (=cetrimonium bromide, p.1635). A white or almost white, voluminous, free-flowing powder. Freely soluble in water and in alcohol. A 2.0% solution in water froths copiously when shaken.

BP 2008 (Strong Cetrimide Solution). It is an aqueous solution of cetrimide. It contains 20 to 40% w/v of cetrimide, calculated as $C_{17}H_{38}BrN$ and up to 10% alcohol or isopropyl alcohol, or both; alcohol may be replaced by industrial methylated spirit. It may be perfumed and may contain colouring matter. Store at a temperature above 15°.

Incompatibility. Cetrimide is incompatible with soaps and other anionic surfactants, bentonite, iodine, phenylmercuric nitrate, and alkali hydroxides. Aqueous solutions react with metals.

Adverse Effects and Treatment

At the concentrations used on the skin, solutions of cetrimide and other quaternary compounds do not generally cause irritation, but some patients become hypersensitive to cetrimide after repeated applications. Cetrimide powder is reported to be irritant. There have been rare reports of burns with concentrated solutions of cetrimide.

If ingested, cetrimide and other quaternary ammonium compounds cause nausea and vomiting; strong solutions may cause oesophageal damage and necrosis. They have depolarising muscle relaxant properties and toxic symptoms include dyspnoea and cyanosis due to paralysis of the respiratory muscles, possibly leading to asphyxia. CNS depression (sometimes preceded by excitement and convulsions), hypotension, coma, and death may also occur. Accidental intra-uterine or intravenous administration may cause haemolysis and pulmonary embolism.

Treatment of poisoning is symptomatic; demulcents and diluents may be given if necessary but emesis and lavage should be avoided, particularly if concentrated solutions have been ingested. Activated charcoal may be considered if the patient presents within an hour of ingestion. CNS stimulants and cholinesterase inhibitors are reported not to reverse paralysis due to cetrimide intoxication although sympathomimetics have been tried. Corticosteroids may reduce oropharyngeal oedema.

Effects after cyst irrigation. Adverse effects after irrigation with cetrimide solutions in the treatment of hydatid cysts have included chemical peritonitis,[1] methaemoglobinaemia with cyanosis,[2] and metabolic acidosis.[3]

1. Gilchrist DS. Chemical peritonitis after cetrimide washout in hydatid-cyst surgery. *Lancet* 1979; **ii:** 1374.
2. Baraka A, *et al*. Cetrimide-induced methaemoglobinaemia after surgical excision of hydatid cyst. *Lancet* 1980; **ii:** 88–9.
3. Momblano P, *et al*. Metabolic acidosis induced by cetrimonium bromide. *Lancet* 1984; **ii:** 1045.

Poisoning. The fatal dose of quaternary ammonium compounds was estimated to be 1 to 3 g.[1]

1. Arena JM. Poisonings and other health hazards associated with use of detergents. *JAMA* 1964; **190:** 56–8.

Precautions

Prolonged and repeated applications of cetrimide to the skin are inadvisable as hypersensitivity may occur. Contact with the eyes, brain, meninges, and middle ear should be avoided. Cetrimide is for external use only and should not be used in body cavities or as an enema.

Quaternary ammonium compounds are not reliable for sterilising surgical instruments and heat-labile articles. The antimicrobial activity of quaternary ammonium compounds may be reduced through absorption, or through combination with organic matter, or by reducing pH.

Solutions of quaternary ammonium compounds should not be used for disinfection of soft contact lenses.

Aqueous solutions of cetrimide or other quaternary ammonium disinfectants may be susceptible to contamination with micro-organisms. To reduce this risk, a sterilised preparation should be used or, where necessary, solutions must be freshly prepared at the recommended concentration and appropriate measures should be taken to prevent contamination during storage or dilution.

Handling. Cetrimide powder is irritant; it has been recommended that the nose and mouth should be protected by a mask when working with the powder[1] and eyes should be protected by goggles.

1. Jacobs JY. Work hazards from drug handling. *Pharm J* 1984; **233:** 195–6.

Uses and Administration

Cetrimide is a quaternary ammonium antiseptic with actions and uses typical of cationic surfactants. These surfactants dissociate in aqueous solution into a relatively large and complex cation that is responsible for the surface activity and a smaller inactive anion. In addition to emulsifying and detergent properties, quaternary ammonium compounds have bactericidal activity against Gram-positive and, at a higher concentration, against some Gram-negative bacteria. Some *Pseudomonas* spp. are particularly resistant as are strains of *Mycobacterium tuberculosis*. They are ineffective against bacterial spores, have variable antifungal activity, and are effective against some viruses.

Quaternary ammonium compounds are most effective in neutral or slightly alkaline solution and their bactericidal activity is appreciably reduced in acid media; their activity is enhanced by alcohols.

Like other quaternary ammonium compounds, notably benzalkonium chloride (p.1629), cetrimide has been employed for cleansing skin, wounds (but see under Wound Disinfection, p.1624), and burns. For these purposes it has been used as a 0.1 to 1.0% aqueous solution, generally prepared by dilution of a more concentrated solution, or as a cream or spray containing 0.5%. However, a mixture of cetrimide with chlorhexidine (p.1635) has often been preferred to cetrimide alone. This combination is also used in a lotion for acne (p.1577).

Solutions containing up to 10% of cetrimide have been used as shampoos to remove the scales in seborrhoeic dermatitis (p.1584).

Cetrimide solution 0.5 or 1% has been used as a scolicide to irrigate hydatid cysts during surgery (see Echinococcosis, p.136) but systemic adverse effects have been reported (see above).

Cetrimide and benzalkonium chloride are also used as preservatives in cosmetics and pharmaceutical formulations including eye drops and in disinfecting solutions for hard contact lenses; neither compound should be used for disinfection of soft contact lenses.

Cetrimide is also present in some emulsifying preparations such as Cetrimide Emulsifying Ointment (BP 2008).

Preparations

BP 2008: Cetrimide Cream; Cetrimide Emulsifying Ointment; Cetrimide Solution.

Proprietary Preparations (details are given in Part 3)

Arg.: Boucren; Sorbicet; ***Fr.:*** Cetavlon; Sterilene; ***Gr.:*** Cetavlon; ***Irl.:*** Cetavlex†; Vesagex; ***Malaysia:*** Cetavlex†; Dermoplex Antiseptic; ***Port.:*** Cetavlex; ***Singapore:*** Acnederm Wash; ***Spain:*** Cetavlon†; ***Turk.:*** Cetyl; ***UK:*** Bansor†; Cetavlex; Medi-Prep; Medicaid; Richmond Antiseptic Cream; Vesagex.

Multi-ingredient: ***Arg.:*** Cerosporin GS†; Jabonacid; Otidrops; Otocalmia Biotic; Sincerum; ***Austral.:*** Acnederm Foaming Wash; Curacleanse†; Dimethicream; Hamilton Pine Tar with Menthol; Hamilton Skin Repair†; Medi Creme; Microshield Antiseptic; Pro-PS†; Savlon Antiseptic; Soov Bite; Soov Burn; Soov Cream; ***Austria:*** Lemocin; Xylonor; ***Belg.:*** Lemocin; ***Braz.:*** Cetrilan; ***Canad.:*** Savlodil; ***Cz.:*** Hibicet Hospital Concentrate†; ***Fr.:*** Broncorinol rhinites†; Lysocalmspray; Rectoquotane; ***Gr.:*** Hibicet; ***Hong Kong:*** Acnederm Wash; B-Gel; Borraginol-N; Drapolene†; Hamilton Skin Repair; Hibicet Hospital Concentrate†; Medicreme; Soov Bite; Soov Cream; Tri-Gel; Zinsomine; ***India:*** Iteol-3; Scabine; Scarab; Siloderm; ***Indon.:*** Benzomid; Bioacne; Borraginol-N; Borraginol-S; Neo Resiguard; Pravlon; ***Irl.:*** Ceanel†; Drapolene; Hibicet; RBC; Savlon; Siopel†; Torbetol; ***Israel:*** Cetrin; Savior; Septacare†; Tisept; Travasept; ***Ital.:*** Baxidin; Cetrexidin; Cetrisan; Clotramid†; Cuprosodio; Farvicett; Hibizene; Lidocaina Spray; Panseptil; Steridol†; ***Malaysia:*** Acnederm Foaming Wash; Burnol Plus; Drapolene; Hibicet†; Soov Bite; ***Neth.:*** Hibicet concentraat; Hibicet verdunning; ***NZ:*** Acnederm Foaming Wash; Acnederm Wash†; Hairscience Conditioner†; Karicare Barrier Cream†; Medicreme; Savlon; Soov Bite; Soov Burn; Soov Cream; Soov Gel; ***Philipp.:*** Drapolene; ***Rus.:*** Drapolene (Драполен); ***S.Afr.:*** Benzet†; Germolene; Hibicet†; Medituss†; Siopel; Trochain; Virobis†; ***Singapore:*** Burnol Plus; Drapolene; Napitol†; Savlon†; Soov Bite; Soov Cream; ***Switz.:*** Gem; ***Thai.:*** Bacard; Burnol Plus; Chlorhex-C; Dekka; Drapolene; Frebac; Hibicet†; Inhibac; Napilene; Sepdine†; Septone†; ***Turk.:*** Drapolene; Savlex; Savonol; Savrolin; Setilin; ***UK:*** Ceanel; Cetanorm; Cymex; Dermidex; Drapolene; Hibicet†; Lypsyl Cold Sore Gel; Neo Baby Cream; Quinoderm Antibacterial Face Wash; Savlon Antiseptic Cream; Savlon Antiseptic Liquid; Siopel; Steripod Chlorhexidine Gluconate with Cetrimide†; Tisept; Torbetol; Travasept; ***USA:*** Scadan.

Cetrimonium Bromide *(BAN, rINN)*

Bromuro de cetrimonio; Cetrimonii Bromidum; Cétrimonium, Bromure de; Cetylotrimetyloamoniowy bromek; Cetyltrimethylammonium Bromide; CTAB. Hexadecyltrimethylammonium bromide.

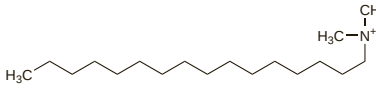
Цетримония Бромид

$C_{19}H_{42}BrN$ = 364.4.

CAS — 6899-10-1 (cetrimonium); 57-09-0 (cetrimonium bromide).

ATC — D08AJ02; R02AA17.

ATC Vet — QD08AJ02; QR02AA17.



(cetrimonium)

NOTE. The name cetrimonium bromide was formerly applied to cetrimide (see above).

Pharmacopoeias. In *USNF.*

USNF 26 (Cetrimonium Bromide). A white to creamy white, voluminous, free-flowing powder, with a characteristic faint odour. Freely soluble in water and in alcohol; practically insoluble in ether.

Cetrimonium Chloride *(BAN)*

Cetrimonio, cloruro de. Hexadecyltrimethylammonium chloride.

$C_{19}H_{42}ClN$ = 320.0.

CAS — 112-02-7.

Profile

Cetrimonium bromide is a quaternary ammonium antiseptic with actions and uses similar to those of other cationic surfactants (see Cetrimide, p.1634). Cetrimonium chloride and cetrimonium tosilate are also used.

Preparations

Proprietary Preparations (details are given in Part 3)

Braz.: Tiracaspa†; ***Ital.:*** Golaval†; Senol; Sterilene; ***Switz.:*** Aknex Cleaning; Turisan.

Multi-ingredient: ***Arg.:*** Bagociletas sin Anestesia†; Bagoderm; Eryteal; Klorane Bebe Eryteal; Salvicutan†; ***Austria:*** Xylestesin; ***Belg.:*** Cetavlex; HAC; Hacdil-S; ***Braz.:*** Amigdalol; Drapolene; Leucocida†; ***Fr.:*** Eryteal†; Nostril; ***Ger.:*** Lemocin; Xylestesin Pumpspray†; ***Indon.:*** Lemocin; ***Israel:*** Lemocin; ***Ital.:*** Golamixin; Xylonor; ***Mex.:*** Dermatolona; ***Pol.:*** Cetriscabin; ***Spain:*** Diformiltricina; Hongosan; Xylonor; ***Switz.:*** Desitur†; Lemocin; Septivon N; Turexan Capilla; Xylestesin†; Xylonor; ***Venez.:*** Kertyol.

Cetylpyridinium Chloride *(BAN, rINN)*

Cetilpiridinio chloridas; Cetilpiridinium-klorid; Cetylpyridinii chloridum; Cetylpyridinii Chloridum Monohydricum; Cétylpyridinium, chlorure de; Cetylpyridinium-chlorid monohydrát; Cetylpyridiniumklorid; Cloruro de cetilpiridinio; Setilpiridinyum Klorür; Setyylipyridiniumkloridi. 1-Hexadecylpyridinium chloride monohydrate.

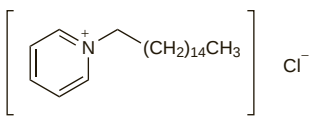
Цетилпиридиния Хлорид

$C_{21}H_{38}ClN,H_2O$ = 358.0.

CAS — 7773-52-6 (cetylpyridinium); 123-03-5 (anhydrous cetylpyridinium chloride); 6004-24-6 (cetylpyridinium chloride, monohydrate).

ATC — B05CA01; D08AJ03; D09AA07; R02AA06.

ATC Vet — QB05CA01; QD08AJ03; QD09AA07; QR02AA06.



Pharmacopoeias. In *Eur.* (see p.vii) and *US.*

Ph. Eur. 6.2 (Cetylpyridinium Chloride). A white or almost white powder, slightly soapy to the touch. Soluble in water, frothing copiously when shaken; soluble in alcohol.

USP 31 (Cetylpyridinium Chloride). A white powder with a slight characteristic odour. Soluble 1 in 4.5 of water and of chloroform, and 1 in 2.5 of alcohol; slightly soluble in ether and in benzene.

Incompatibility. Cetylpyridinium chloride is incompatible with soaps and other anionic surfactants.

Profile

Cetylpyridinium chloride is a quaternary pyridinium antiseptic with actions and uses similar to those of other cationic surfactants (see Cetrimide, p.1634). It is used chiefly as lozenges or solutions for the treatment of minor infections of the mouth and throat. It is also used topically for the treatment of skin and eye infections.

Cetylpyridinium bromide is used similarly for minor mouth and throat disorders.

Preparations

USP 31: Cetylpyridinium Chloride Lozenges; Cetylpyridinium Chloride Topical Solution.

Proprietary Preparations (details are given in Part 3)

Austral.: Cepacol Antibacterial; Cepacol Antiseptic Throat Lozenges; Cepacol Mint; Cepacol Regular; Lemsip Lozenges; ***Austria:*** Dobendan; Halset; ***Braz.:*** Gargocetil; Laringex; ***Canad.:*** Cepacol; Mouthwash†; Rince Bouche Antiseptique; Throat Lozenges; ***Chile:*** Freesept; ***Cz.:*** Halset; ***Fr.:*** Cetylyre†; Novoptine†; ***Ger.:*** Dobendan; Halstabletten akute; ***Hong Kong:*** Cepacol; Cetocomp; ***Hung.:*** Halset; ***Irl.:*** Merocets; ***Ital.:*** Bat; Borocaina Gola; Bronchenolo†; Cetilsan; Citromed Soap; Exil; Farin Gola; Golacetin; Golafair; Honeygola; Neo Cepacol Pastiglie; Neo Coricidin Gola†; Neo Formitrol; Periogard Plus; Ragaden; Stomygen; ***Mex.:*** Trociletas; ***Norw.:*** Pyrisept; ***NZ:*** Cepacol; Lemsip Throat Lozenges; ***Pol.:*** Halset; Menthosept; ***Port.:*** Septus; ***S.Afr.:*** Cepacol; Universal Throat Lollies; ***Singapore:*** Cepacol; ***Spain:*** Angifonil†; ***Thai.:*** Cepacol; Orasept; ***Turk.:*** Aseptol; Penipastil; ***UK:*** Listermint; Merocets; ***USA:*** Cepacol Mouthwash; Cepacol Throat; Choice DM Gentle Care; Scope; ***Venez.:*** Cepacol; Tablibut†.

Multi-ingredient: ***Arg.:*** Desenfriol Caramelos†; Ernex Duo; Oral-B Enjuague Bucal†; Periodil; Solumenin; ***Austral.:*** Cepacaine; Cepacol Anaesthetic; Cepacol Antibacterial; Cepacol Cough & Sore Throat; Difflam Anti-inflammatory Lozenges with Cough Suppressant; Difflam Lozenges; Difflam Mouth Gel; Duro-Tuss Cough Lozenges; Gentlees; Seda-Gel†; ***Austria:*** Coldistan; Dentinox; Gurfix; Paididont; Tetesept; ***Braz.:*** Cepacaina; Cepacol Menta; Cetildrops†; Dentalivio†; Fenotricin†; Lima C; Limao Bravo com Vitamina C†; Limao Bravo†; Malvona†; Neopiridin; Pondicilina; Proplax†; Psiu; Sanilin; ***Canad.:*** Cepacol Extra Strength; Cepacol with Fluoride; Green Antiseptic Mouthwash & Gargle; Kank-A; Oral Plan†; Oral-B Anti-Bacterial with Fluoride; Throat Lozenges; ***Chile:*** Halita; Kank-Eze; Oralfresh Menta; Pancrit; Perio-Aid c Cloruro de Cetilpiridinio; Vitis Encias Colutorio; Vitis Encias Pasta; ***Cz.:*** Brand- und Wundgel†; Calgel; Neoseptolete; Panlid; Stas†; Tetesept Angidin†; ***Fin.:*** Bafucin; ***Fr.:*** Alodont; Broncorinol maux de gorge†; Lysopaine; Parogencyl prevention gencives; ***Ger.:*** Biogel†; Brand- und Wund-Gel Eu Rho†; Broncho-Tyrosolvetten†; Dolo-Dobendan; Emmedical†; Frubienzym; Frubizin Forte†; Nordathricin N†; Trachiform†; Tyrosolvetten-C†; Tyrosolvetten†; Tyrosur; Wick Sulagil; ***Hong Kong:*** Dentinox Teething Gel; Difflam Anti-inflammatory Lozenges; Difflam Mouth Gel; Pharynx; Setronges†; ***Hung.:*** Mebucain; Tyrosur; ***Indon.:*** Sentril; ***Irl.:*** Anbesol; Merocaine; ***Israel:*** Cepadont; Kank-A; ***Ital.:*** Delta 80; Delta 80 Plus; Farmagola†; Ginvapast; Gola Action; Neo-Stomygen; Oral-B Collutorio per la Protezione di Denti e Gengive; Orosanyl†; Ridiodent; Rikospray; Stomygen; ***Malaysia:*** Cetylpyridinium B; Dentinox Teething Gel; Difflam Anti-inflammatory Lozenges (with Antibacterial); Difflam Anti-Inflammatory Lozenges (with cough suppressant); Difflam Mouth Gel; Orregel; Pharynx; Setronges†; ***Mex.:*** Cepacaina; Mentalgina; Trociletas B; ***Neth.:*** Agre-Gola; ***Norw.:*** Aselli; ***NZ:*** Cepacaine; Cepacol Anaesthetic; Cepacol Cough Discs; Difflam Cough; Difflam Mouth Gel; Duro-Tuss Lozenges; ***Philipp.:*** Xylorinse; ***Pol.:*** Calgel; Lidodent; Septolete Plus; Tetesept; Undofen; ***Port.:*** Anbegele†; Biofluor Ortodoncia†; Biofluor Sensitive†; Dropcina; Mebocaina; ***Rus.:*** Calgel (Калгель); Septolete Plus (Септолете Плюс); ***S.Afr.:*** Anbesol; Andolex-C; Cepacaine; Cepacol; Cepacol Cough Discs; Cetoxol; Colphen; Endcol Lozenges; Medi-Kain†; Medi-Keel A; Prodol; Vagarsol; Vicks Acta Plus; Vicks Cough Syrup; ***Singapore:*** Dentinox Teething Gel; Difflam Anti-inflammatory Anti-Bacterial Lozenges; Difflam Mouth Gel; Duro-Tuss Cough Lozenges; Pharynx; Soragel; ***Spain:*** Alcohocel; Alcohol Cetil†; Alcohol Cetilpi Cuve†; Babysiton; Farmalcohol; Pastillas Antisep Garg L; Pastillas Antisep Garg M; Silidermil†; Vicks Formula 44†; ***Swed.:*** Bafucin; ***Switz.:*** Alodont†; Angina MCC; Anginazol; Desaquick forte†; Flavangin†; Hextrileten; Hextrimint; Lidazon; Mebucaine; Nasex†; Neo-Angin Lido; Otothricinol; Pharmacard Family Maux de gorge†; Wulnasin; ***Thai.:*** Sentril; Sore Mouth Gel; ***Turk.:*** Calgel; Nesgarin; ***UAE:*** B-Cool; New B-Cool; ***UK:*** Adult Meltus for Chesty Coughs & Catarrh; Allens Dry Tickly Cough; Anbesol; Calgel; Dentinox Teething Gel; Kilkof; Listermint with Fluoride; Macleans Mouthguard; Meltus Expectorant; Meltus Junior Expectorant; Merocaine; Merocets Plus; Rinstead; Rinstead Teething Gel†; Woodwards Teething Gel; ***USA:*** Cepacol Anesthetic; Cepacol Maximum Strength Sore Throat; Cepacol Regular Strength; Cylex; MouthKote O/R; MouthKote P/R†; Orajel Mouth Aid; ***Venez.:*** Borogin; Calgel†; Cepacol-BE; Isospray; Lafarcaina; Solunovar Compuesto.

Chlorhexidine *(BAN, rINN)*

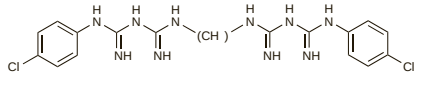
Chlorhexidinum; Clorhexidina; Klooriheksidiini; Klorheksidin; Klorhexidin.

Хлоргексидин

CAS — 55-56-1.

ATC — A01AB03; B05CA02; D08AC02; D09AA12; R02AA05; S01AX09; S02AA09; S03AA04.

ATC Vet — QA01AB03; QB05CA02; QD08AC02; QD09AA12; QR02AA05; QS01AX09; QS02AA09; QS03AA04.



Chlorhexidine Acetate *(BANM, rINNM)*

Acetato de clorhexidina; Chlorheksidino diacetatas; Chlorhexidin-diacetát; Chlorhexidine, Acétate de; Chlorhexidine Diacetate; Chlorhexidine, diacétate de; Chlorhexidini Acetas; Chlorhexidini diacetas; Chloroheksydyny octan; Klooriheksidiinidiasetaatti; Klorhexidindiacetat; Klórhexidin-diacetát. 1,1′-Hexamethylenebis[5-(4-chlorophenyl)biguanide] diacetate.

Хлоргексидина Ацетат

$C_{22}H_{30}Cl_2N_{10},2C_2H_4O_2$ = 625.6.

CAS — 56-95-1.

ATC — A01AB03; B05CA02; D08AC02; D09AA12; R02AA05; S01AX09; S02AA09; S03AA04.

ATC Vet — QA01AB03; QB05CA02; QD08AC02; QD09AA12; QR02AA05; QS01AX09; QS02AA09; QS03AA04.

Pharmacopoeias. In *Chin., Eur.* (see p.vii), and *Int.*

Ph. Eur. 6.2 (Chlorhexidine Diacetate). A white or almost white, microcrystalline powder. Sparingly soluble in water; soluble in alcohol; slightly soluble in glycerol and in propylene glycol.

Incompatibility. The incompatibilities of chlorhexidine salts are discussed under Chlorhexidine Hydrochloride, below.

Stability. The stability of chlorhexidine salts is discussed under Chlorhexidine Hydrochloride, below.

Chlorhexidine Gluconate *(BANM, USAN, rINNM)*

Chlorheksidino digliukonato tirpalas; Chlorhexidin-diglukonát; Chlorhexidine Digluconate; Chlorhexidine, digluconate de; Chlorhexidine, Gluconate de; Chlorhexidini digluconas; Chlorhexidini Digluconatis Solutio; Chlorhexidini Gluconas; Chloroheksydyny diglukonianu roztwór; Gluconato de clorhexidina; Klooriheksidiinidiglukonaattiliuos; Klorheksidin Glukonat; Klorhexidindiglukonatlösning; Klórhexidin-diglükonát-oldat. 1,1′-Hexamethylenebis[5-(4-chlorophenyl)biguanide] digluconate.

Хлоргексидина Глюконат

$C_{22}H_{30}Cl_2N_{10},2C_6H_{12}O_7$ = 897.8.

CAS — 18472-51-0.

ATC — A01AB03; B05CA02; D08AC02; D09AA12; R02AA05; S01AX09; S02AA09; S03AA04.

ATC Vet — QA01AB03; QB05CA02; QD08AC02; QD09AA12; QR02AA05; QS01AX09; QS02AA09; QS03AA04.

Pharmacopoeias. *Chin., Eur.* (see p.vii), and *US* include a solution which contains 19 to 21% of chlorhexidine gluconate.

Ph. Eur. 6.2 (Chlorhexidine Digluconate Solution; Chlorhexidini Digluconatis Solutio; Chlorhexidine Gluconate Solution BP 2008). An aqueous solution which contains not less than 190 g/litre and not more than 210 g/litre of chlorhexidine gluconate. An almost colourless or pale-yellowish liquid. Miscible with water, with not more than 5 parts of alcohol, and with not more than 3 parts of acetone. A 5% v/v dilution in water has a pH of 5.5 to 7.0. Protect from light.

USP 31 (Chlorhexidine Gluconate Solution). An aqueous solution which contains not less than 19% and not more than 21% of chlorhexidine gluconate. An almost colourless or pale yellow, clear liquid. Miscible with water and with glacial acetic acid; miscible with five times its volume of dehydrated alcohol and with three times its volume of acetone; further addition of dehydrated alcohol or of acetone yields a white turbidity. A 5% v/v dilution in water has a pH of 5.5 to 7.0. Store in airtight containers. Protect from light.

Incompatibility. The incompatibilities of chlorhexidine salts are discussed under Chlorhexidine Hydrochloride, below.

Stability. The stability of chlorhexidine salts is discussed under Chlorhexidine Hydrochloride, below.

Sterilisation. Dilutions of commercial concentrated solutions may be sterilised by autoclaving.

Chlorhexidine Hydrochloride *(BANM, USAN, rINNM)*

AY-5312; Chlorheksidino dihidrochloridas; Chlorhexidin-dihydrochlorid; Chlorhexidine, Chlorhydrate de; Chlorhexidine, dichlorhydrate de; Chlorhexidine Dihydrochloride; Chlorhexidini dihydrochloridum; Chlorhexidini Hydrochloridum; Hidrocloruro de clorhexidina; Klooriheksidiinidihydrokloridi; Klorheksidin Hidroklorür; Klórhexidin-dihidroklorid; Klorhexidindihydroklorid. 1,1′-Hexamethylenebis[5-(4-chlorophenyl)biguanide] dihydrochloride.

Хлоргексидина Гидрохлорид

$C_{22}H_{30}Cl_2N_{10},2HCl$ = 578.4.

CAS — 3697-42-5.

ATC — A01AB03; B05CA02; D08AC02; D09AA12; R02AA05; S01AX09; S02AA09; S03AA04.

ATC Vet — QA01AB03; QB05CA02; QD08AC02; QD09AA12; QR02AA05; QS01AX09; QS02AA09; QS03AA04.

Pharmacopoeias. In *Eur.* (see p.vii), *Int.*, and *Jpn.*

Ph. Eur. 6.2 (Chlorhexidine Dihydrochloride; Chlorhexidine Hydrochloride BP 2008). A white or almost white, crystalline powder. Sparingly soluble in water and in propylene glycol; very slightly soluble in alcohol.

Incompatibility. Chlorhexidine salts are incompatible with soaps and other anionic materials. Activity may be reduced in the presence of suspending agents such as alginates and tragacanth, insoluble powders such as kaolin, and insoluble compounds of calcium, magnesium, and zinc. Chlorhexidine acetate is incompatible with potassium iodide. At a concentration of 0.05%, chlorhexidine salts are incompatible with borates, bicarbonates, carbonates, chlorides, citrates, nitrates, phosphates, and sulfates, forming salts of low solubility which may precipitate out of solution. At dilutions of 0.01% or more, these salts are generally soluble. Insoluble salts may form in hard water. Chlorhexidine salts are inactivated by cork.