

Profile

Cititolone has been used in the treatment of hepatic disorders and as a mucolytic. Hypersensitivity reactions have been reported.

♦ References.

- de Barrio M, et al. Recurrent fixed drug eruption caused by citi-olone. *J Investig Allergol Clin Immunol* 1997; 7: 193–4.

Preparations

Proprietary Preparations (details are given in Part 3)

Spain: Mucorex†.

Multi-ingredient: Spain: Hubergrip†.

Citral

Cytral, 3,7-Dimethyl-2,6-octadienal.

$C_{10}H_{16}O = 152.2$.

CAS — 5392-40-5 (citral); 141-27-5 (geranial); 106-26-3 (neral).

Profile

Citral is a terpenoid constituent of lemon oil (p.2332), lemon grass oil (p.2333), melissa oil (p.2339), and many other essential oils; it exists as 2 isomers, *trans*-citral (geranial) and *cis*-citral (neral). It has been used in preparations for respiratory-tract, musculoskeletal, and other disorders. It is also used as a flavour and perfume.

Hypersensitivity. References.

- Heydorn S, et al. Citral a fragrance allergen and irritant. *Contact Dermatitis* 2003; 49: 32–6.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: Fr.: Bronchorectine au Citral; **Switz.:** Carmol Plus†.

Anhydrous Citric Acid

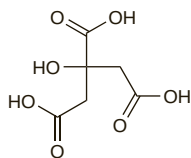
Acidum Citricum; Acidum citricum anhydricum; Cítrico anhidro, ácido; Citrinų rūgštis, bevandenė; Citrique (acide) anhydre; Citronensäure; Citronsyra, vattenfri; E330; Kyselina citronová; Sitruunahappo, vedetön; Vízmentes citromsav. 2-Hydroxypropane-1,2,3-tricarboxylic acid.

$C_6H_8O_7 = 192.1$.

CAS — 77-92-9.

ATC — A09AB04.

ATC Vet — QA09AB04.



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

Ph. Eur. 6.2 (Citric Acid, Anhydrous). Colourless crystals or granules or a white or almost white crystalline powder. Very soluble in water; freely soluble in alcohol.

USP 31 (Anhydrous Citric Acid). Colourless, translucent crystals, or a white, granular to fine, crystalline powder. Soluble 1 in 0.5 of water, 1 in 2 of alcohol, and 1 in 30 of ether. Store in airtight containers.

Citric Acid Monohydrate

Ácido del Limón; Acidum citricum monohydricum; Cítrico monohidratado, ácido; Citrinų rūgštis monohidratas; Citrique (acide) monohydraté; Citromsav-monohidrátt; Citronsyramonohydrat; Hydrous Citric Acid; Kwas cytrynowy jednowodny; Kyselina citronová monohidrátt; Sitruunahappomonohydraatti.

$C_6H_8O_7 \cdot H_2O = 210.1$.

CAS — 5949-29-1.

ATC — A09AB04.

ATC Vet — QA09AB04.

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

Ph. Eur. 6.2 (Citric Acid Monohydrate). Efflorescent, colourless crystals or granules, or a white or almost white crystalline powder. Very soluble in water; freely soluble in alcohol. Store in airtight containers.

USP 31 (Citric Acid Monohydrate). Colourless, translucent crystals, or a white, granular to fine, crystalline powder. It is efflorescent in dry air. Soluble 1 in 0.5 of water, 1 in 2 of alcohol, and 1 in 30 of ether. Store in airtight containers.

Adverse Effects and Precautions

Citric acid ingested frequently or in large quantities may cause erosion of the teeth and have a local irritant action.

Interactions

Aluminium hydroxide. Intestinal absorption of aluminium ions may be enhanced by oral doses of citrates. Caution is needed in patients with chronic renal disease receiving aluminium hy-

droxide as a phosphate binder who are given a calcium supplement in the form of effervescent tablets that contain citric acid.¹

- Mees EJD, Başçı A. Citric acid in calcium effervescent tablets may favour aluminium intoxication. *Nephron* 1991; 59: 322.

Uses and Administration

Citric acid is used in effervescent mixtures; the monohydrate is used in the preparation of effervescent granules.

Citric acid monohydrate is used as a synergist to enhance the effectiveness of antioxidants.

Preparations containing citric acid are used in the management of dry mouth (p.2140) and to dissolve renal calculi, alkalise the urine, and prevent encrustation of urinary catheters. Citric acid is an ingredient of citrated anticoagulant solutions. Citric acid has also been used in preparations for the treatment of coughs, gastrointestinal disturbances, and metabolic acidosis.

Preparations

BP 2008: Lemon Syrup; Paediatric Compound Tolu Linctus; Paediatric Simple Linctus; Potassium Citrate Mixture; Simple Linctus.

Ph. Eur.: Anticoagulant Citrate-Dextrose-Glucose Solutions (ACD); Anticoagulant Citrate-Phosphate-Glucose Solution (CPD).

USP 31: Anticoagulant Citrate Dextrose Solution; Anticoagulant Citrate Phosphate Dextrose Solution; Adenine Solution; Anticoagulant Citrate Phosphate Dextrose Solution; Citric Acid, Magnesium Oxide, and Sodium Carbonate Irrigation; Magnesium Carbonate and Citric Acid for Oral Solution; Magnesium Carbonate, Citric Acid, and Potassium Citrate for Oral Solution; Magnesium Citrate Oral Solution; Potassium and Sodium Bicarbonates and Citric Acid Effervescent Tablets for Oral Solution; Potassium Citrate And Citric Acid Oral Solution; Sodium Citrate and Citric Acid Oral Solution; Tricrates Oral Solution.

Proprietary Preparations (details are given in Part 3)

Gr.: Citrolithin; **India:** Revidi; **Mex.:** Lipocinetic; **Pol.:** Citrolyt; **S.Afr.:** Crystacit; **Venez.:** Policitra.

Multi-ingredient: Arg.: Alikal; Alka-Seltzer Doble Accion; Sal de Fruta Eno; Uvasal; **Austral.:** Alka-Seltzer; Citralite; Citravescant; Duroxal X-Pack†; Eno; Picolax†; Picoprep; Ural; Unikal†; Unicosal†; **Austria:** Alka-Seltzer; Duplotraz Z; Helo-acid; Kalioral; **Belg.:** Alka-Seltzer; **Braz.:** Citrosodine†; Digesthem; Regulador Xavier N-2†; Sal de Andrews; Sal de Fruta Eno; Sonisal; **Canada:** Alka-Seltzer; Bromo Madelon; Dicitrate†; Pico-Salax; Chile: Disfruta, Fenokomp 39; Justegas†; Kanacitrin; Sal de Fruta Eno; Summer's Eve Hierbas†; Uroalquino; Yasta; **Cz.:** Alka-Seltzer; Blemaren N; Carbocit; E-Z-Gas†; Herbadent; **Fin.:** Alka-Seltzer; **Fr.:** Alka-Seltzer; Citrocholine; Doculyse; Elixir Grez†; Hepargitol; Omitaine; Sebum AKN; Sphingogel†; **Ger.:** Alka-Seltzer; Banlux Brausetabletten†; Blemaren N; Citropepsin†; Lithurex S†; Pepzitrax; Retterspitz Ausserlich; Retterspitz Innerlich; Uronor†; **Gr.:** E-Z-Gas; Gastrovison†; **Hong Kong:** Alka-Seltzer; Eno†; **Hung.:** Alka-Seltzer; Blemaren N; E-Z-Gas; Magulit†; **India:** Carmicide; Coscopin; Coscopin Plus; Dristan Expectorant; Unisoda; **Indon.:** Koffex for Children; Promethazine Ikapharmindo; **Irl.:** Andrews; Carbox†; Cymalon; Mictal†; **Israel:** E-Z-Gas II; Eno; Unikal; **Ital.:** Alka-Seltzer; Citroepatin; Duogas; Geffer; Lavanda Sofar; **Malaysia:** Alka-Seltzer; Citravescant†; Ezee; Picoprep; Potcit; Ural; **Mex.:** Kaposalt; Lipo Slim N†; Urodasio NF; **Neth.:** Alka-Seltzer; Gastrogas; **NZ:** Alka-Seltzer; Lemsip Dry Cough†; Picoprep; Ural; **Philipp.:** Alka-Seltzer; **Pol.:** Citropepsin; **Port.:** Alka-Seltzer; Creme Laser Hidrante; Detoxergon; Eno; **Rus.:** Alka-Seltzer (Алка-Зельцер); Blemaren (Блемарен); **S.Afr.:** Adco-Sodasol; Alkalif; Betasoda†; Citro-Soda; Citroclit†; Effersol; Neucid; Quatro-Soda†; Un-Alk; Vicks Cough Syrup; **Singapore:** Alka-Seltzer; Dicitrate; Potcit; **Spain:** Alka-Seltzer; Justegas; Pastillas Antisep Garg L; Sal de Fruta Eno; Sales de Frutas P G; Uralyt Urato; **Swed.:** Alka-Seltzer; Renapur; **Switz.:** Alka-Seltzer; E-Z-Gas II; Pepsi-Chlor†; Siesta-I; **Thai.:** Alka-Seltzer; Carmicide†; **Turk.:** Alka-Seltzer; **UK:** Alka-Seltzer; Alka-Seltzer XS; Allens Junior Cough; Andrews; Carbox; Cymalon; Effercitrate; Eno; Hill's Balsam Chesty Cough for Children; Lemsip Cough & Cold Dry Cough; Potters Children's Cough Pastilles; Resolve; Uniflex G; Uniflex R; Uro-Tainer Solution R; Uro-Tainer Suby G; Zubes Blackcurrant; Zubes Honey & Lemon; **USA:** Alka-Seltzer; Alka-Seltzer Antacid; Alka-Seltzer with Aspirin; Bicitra; Bromo Seltzer Effervescent Granules; Cytra-2; Cytra-3; Cytra-K; Cytra-LC; Extra Strength Alka-Seltzer Effervescent Tablets; Gold Alka-Seltzer; Oracit; Original Alka-Seltzer Effervescent Tablets; Polycitra; Polycitra-K; Polycitra-LC; Renacidin; Sparkles; Zee-Seltzer; **Venez.:** Alka-Seltzer; Eno.

Citronella Oil

Citrinžolij eterinis aliejus; Citronela, aceite esencial de; Citronellae aetheroleum; Citronellae Etheroleum; Citronellaölaj; Citronellojla; Citronellová silice; Citronnelle, huile essentielle de; Oleum Citronellae; Sitronellaölj.

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

Ph. Eur. 6.2 (Citronella Oil). The oil obtained by steam distillation from the fresh or partially dried aerial parts of *Cymbopogon winterianus*. It contains 30.0 to 45.0% citronellal, 9.0 to 15.0% citronellol, 2.0 to 4.0% citronellyl acetate, less than 2.0% geranial, 20.0 to 25.0% geraniol, 3.0 to 8.0% geranyl acetate, 1.0 to 5.0% limonene, and less than 2.0% neral. A pale yellow to brownish-yellow liquid with a very strong odour of citronellal. Store in well-filled containers. Protect from light.

Profile

Citronella oil is used as a perfume and insect repellent. It is also used in aromatherapy. Hypersensitivity has been reported.

Preparations

Proprietary Preparations (details are given in Part 3)

Arg.: Aulo Gelio Repelente; Repelente Rep; **Canada:** Buzz Away†; Druide Insect Repellent†; **Ger.:** Kneipp Beruhigungs-Bad spezial; Schupp's Melissen Ölbad†; **Malaysia:** Moz-Away; **UK:** Mozzie Patch; Natrapel.

Multi-ingredient: Arg.: Aulo Repelente De Pojos; Repelente Rep; **Austral.:** Apex Repel Natural; **Austria:** Valin Baldrian; **Belg.:** Mouskito Travel Stick; **Canada:** Natrapel; **Cz.:** Amol; **Fr.:** Ysol 206; **Ger.:** este-gast; Melisengeist; **Indon.:** Corsabalm; **Ital.:** Air Citronella†; Citrosystem; Mistick Verde; **NZ:** Apex Repel Natural; **Pol.:** Carmolis; **S.Afr.:** Melisengeist; No-Bite†; **Switz.:** Baume du Chalet; Novital; Saltrates†; Sansilla; **UK:** Snowfire; **USA:** Treo.

Clivers

Amor de hortelano; Cleavers; Galii Aparinis Herba; Galium; Goosegrass.

Profile

Clivers is the dried aerial parts of *Galium aparine* (Rubiaceae). It has been used in herbal medicine, mainly as a diuretic.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: Austral.: Dermaco; Galium Complex†; Herbal Cleanse†; Uva-Ursi Complex†; **UK:** Antitis; Aqua Ban Herbal; Athera; Backache; Cascade; Gerard House Water Relief Tablets; HealthAid Boldo-Plus; Kas-Bah; Modern Herbs Menopause; Modern Herbs Water Retention; Psorasolv; Sciargo; Skin Cleansing; Tabritis; Water Naturtabs; Water-shed.

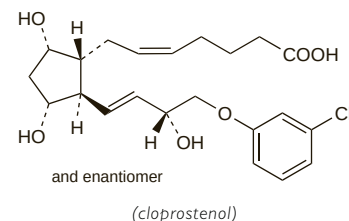
Cloprostenol Sodium (BAN, USAN, rINN)

Cloprostenol sódico; Cloprosténol sodique; Cloprostenoli natrium; ICI-80996; Natrii Cloprostenolum. Sodium (±)-(Z)-7-{{(1R,2R,3R,5S)-2-[(E)-(3R)-4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl}hept-5-enoate.

Натрий Клопростенол

$C_{22}H_{28}ClNaO_6 = 446.9$.

CAS — 40665-92-7 (cloprostenol); 55028-72-3 (cloprostenol sodium).



Pharmacopoeias. In *BP(Vet)*.

BP(Vet) 2008 (Cloprostenol Sodium). A white or almost white amorphous hygroscopic powder. Freely soluble in water, in alcohol, and in methyl alcohol; practically insoluble in acetone. Protect from light and moisture.

Profile

Cloprostenol is a synthetic analogue of dinoprost (prostaglandin F₂). The sodium salt is used as a luteolytic in veterinary medicine.

Clove

Caryoph.†; Caryophylli flos; Caryophyllum; Clavo; Clou de girofle; Cloves; Cravinho; Cravo-da-Índia; Gewürznelke; Giroflie; Gvazdikéliai; Hřebčkovcový květ; Kryddnejlika; Mausteneilikka; Szegfűszeg; Tropical Myrtle.

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

Ph. Eur. 6.2 (Clove). The whole flower buds of *Syzygium aromaticum* (*Eugenia caryophyllus*), containing not less than 15% v/w of volatile oil, dried until they become reddish-brown, and with a characteristic aromatic odour. Protect from light.

The BP 2008 directs that when Powdered Clove is prescribed or demanded, material containing not less than 12.0% v/w of essential oil shall be dispensed or supplied.

Profile

Clove is a carminative and is used as a flavour. It is the source of clove oil (below).

Clove and clove oil have been abused in the form of cigarettes.

Abuse. Smoking of cigarettes composed of a mixture of tobacco and cloves is a habit that originated in Indonesia and has spread to the USA. There have been reports of severe and sometimes fatal respiratory illness related to smoking clove cigarettes and there is also evidence from animal studies that clove cigarette smoke and eugenol (the principal constituent of clove oil) have harmful pulmonary effects. The Council on Scientific Affairs of the American Medical Association considers that in addition to the hazards associated with smoking tobacco, clove cigarettes may also produce severe lung injury in certain susceptible individuals and could also induce pulmonary aspiration in healthy individuals due to diminution of the gag reflex produced by the local anaesthetic action of eugenol.¹ The American Academy of Pediatrics has also alerted paediatricians in the USA to clove-cigarette smoking by young people and warned of the risks.²

- American Medical Association Council on Scientific Affairs. Evaluation of the health hazard of clove cigarettes. *JAMA* 1988; 260: 3641–4.
- Committee on Substance Abuse. Hazards of clove cigarettes. *Pediatrics* 1991; 88: 395–6.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: **Austria:** Mariazeller; **Braz.:** Balsamo Branco; **Cz.:** Klosterfrau Melisana; Naturland Grosser Swedenbitter†; Stomatosan†; **Ger.:** Doppelherz Melissegeist†; Inconturina†; Melissegeist; **Ital.:** Biophase Shampoo; Promix†; Saugella Uomo; **Port.:** Midro†; **Rus.:** Doppelherz Melissa (Доппельхерц Мелисса); Maraslavin (Мараславин); Original Grosser Bitter Balsam (Оригинальный Большой Бальзам Биттнера); **S.Afr.:** Clairo; Melissegeist; Spiritus Contra Tussim Drops; **Switz.:** Alcoolat de Melisse†; Odontal; Tisane pour les problemes de prostate; **UK:** Melissa Comp; Revitonil.

Clove Oil

Caryophylli floris aetheroleum; Caryophylli Floris Etheroleum; Clavo, aceite esencial de; Clou de girofle, huile essentielle de; Essencia de Clavo; Essence de Girofle; Gvazdikėliu eterinis aliejus; Neilikāļijs; Nejlikolja; Nelkenöl; Ol. Caryoph.; Oleum Caryophylli; Silice hřebčikovcového květu; Szegfűszegolaj.

Pharmacopoeias. In *Eur.* (see p.vii) and *Jpn.* Also in *USNF*. **Ph. Eur. 6.2** (Clove Oil). A clear yellow liquid obtained by steam distillation from clove containing 75.0 to 88.0% of eugenol. It becomes brown on exposure to air. Miscible with dichloromethane, with toluene, and with fatty oils. Store in well-filled airtight containers. Protect from light and heat. **USNF 26** (Clove Oil). The volatile oil distilled with steam from clove. It contains not less than 85.0% of phenolic substances, chiefly eugenol. Soluble 1 in 2 of alcohol (70%). Store in well-filled airtight containers.

Incompatibility. PVC bottles softened and distorted fairly rapidly in the presence of clove oil, which should not be stored or dispensed in such bottles.¹

- Department of Pharmaceutical Sciences of the Pharmaceutical Society of Great Britain. Plastics medicine bottles of rigid PVC. *Pharm J* 1973; **210**: 100.

Profile

Clove oil is a carminative that is sometimes used in the treatment of flatulent colic. It is also used as a flavour.

Applied externally clove oil is irritant but can produce local anaesthesia. It is used as a domestic remedy for toothache, a plug of cotton wool soaked in the oil being inserted in the cavity of the carious tooth; repeated application may damage the gingival tissues. Mixed with zinc oxide, it is used as a temporary anodyne dental filling, although eugenol (p.2301), one of its constituents, is often preferred. Clove oil is included as a counter-irritant in preparations for musculoskeletal and joint disorders. It is also used in aromatherapy.

Eugenol may cause hypersensitivity.

Adverse effects. Severe toxicity after ingestion of clove oil by young children has been reported.¹⁻⁴ Adverse effects included coma, acidosis, a generalised seizure, disordered blood clotting, and acute liver damage.

For reference to the harmful effects of smoking clove cigarettes, see under Clove, above.

- Lane BW, *et al.* Clove oil ingestion in an infant. *Hum Exp Toxicol* 1991; **10**: 291-4.
- Hartnoll G, *et al.* Near fatal ingestion of oil of cloves. *Arch Dis Child* 1993; **69**: 392-3.
- Eisen JS, *et al.* N-acetylcysteine for the treatment of clove oil-induced fulminant hepatic failure. *J Toxicol Clin Toxicol* 2004; **42**: 89-92.
- Janes SE, *et al.* Essential oil poisoning: N-acetylcysteine for eugenol-induced hepatic failure and analysis of a national database. *Eur J Pediatr* 2005; **164**: 520-2.

Preparations

BP 2008: Aromatic Cardamom Tincture.

Proprietary Preparations (details are given in Part 3)

S.Afr.: Naeltjie-Olie; **UK:** Dentogen; Soothake Toothache Gel.

Multi-ingredient: **Austral.:** Tiger Balm Red; Tiger Balm White; **Austria:** Parodontax; Tiger Balsam Rot; **Braz.:** Algidente†; Anestesiol†; Dentisan; **Canad.:** Tiger Balm Red; Tiger Balm Ultra; Tiger Balm White; **Chile:** Agua del Carmen; Agua Melisa Carminativa; Hustagil†; **Cz.:** Amol; Herbadent; Parodontal F5†; Stopangin; Tiger Balm Rot†; **Fr.:** Aromasol; Baume Aroma; Gouttes aux Essences; Nazinette du Docteur Gilbert; Tigridol; **Ger.:** Amol Heilkrautergeist N; China-Balsam†; esto-gast; Hustagl Erkaltungsbalsam†; Melissegeist; Nur I Tropfen medizinisches Mundwasser†; Repha-Ös; Salviathymol N; **Hong Kong:** Magesto; **India:** Arowash; Sensus; **Indon.:** Balsam Sakti; Corsabalm; **Israel:** Tiger Balm Red; Tiger Balm White; **Ital.:** Dentosan Azione Intensiva; Dentosan Mese; Fialetta Odontalgica Dr Knapp; Ondroly-A†; **NZ:** Electric Blue Headlice; Toothache Drops†; **Pol.:** Amol; Argol Essenza Balsamica; Argol Grip; Argol Rheuma; Aromatol; Carmolis; Olbas; Salviasept; **Rus.:** Carmolis (Кармолис)†; Carmolis Fluid (Кармолис Жидкость)†; Efcamon (Эфкамон); **S.Afr.:** Alpha Toothache Essence; Balsam Vita GEL; Balsam Vita ROOL; Balsam Vita WIT; Enterodyne; Helmontskruie; Moultons Pain Paint; Muscle Rub; Prep; Puma Balm; SB Toothache Drops; **Spain:** Dentol Topico; Otogen Calmante; **Switz.:** Baume de Chine Temple of Heaven blanc; Carmol; Carmol Plus†; Olbas; Osa gel dentaire aux plantes; Parodontax†; Sansilla; Spagyrom; **Thai.:** Magesto; Masaga; Mesto-Of; **Turk.:** Disinol; **UK:** Hactos; Nine Rubbing Oils; Olbas; Olbas for Children; Potters Sugar Free Cough Pastilles; Red Oil; Snowfire; Soothake Toothache Tincture; Teenstick; Tiger Balm; **USA:** Dentapaine; Numzit†; Toothache Gel; **Venez.:** One Drop Only†.

Red Clover

Cow Clover; Meadow Clover; Purple Clover; Trébol rojo; Trefoil.

Pharmacopoeias. In *US*, which also includes the powdered form and powdered extract.

USP 31 (Red Clover). The dried inflorescence of *Trifolium pratense* (Fabaceae). It contains not less than 0.5% of isoflavones, calculated on the dried basis as the sum of daidzein (p.2391), genistein (p.2391), formononetin, and biochanin A. Protect from light and moisture.

Profile

The flowerheads of red clover have been used in herbal medicine. The isoflavones present in red clover have been investigated, similarly to other phytoestrogens, for their potential endocrine effects.

Preparations

USP 31: Red Clover Tablets.

Proprietary Preparations (details are given in Part 3)

Austral.: Promensil; Trinovin; **Braz.:** Climadil; Clinet; **Indon.:** Promenro; **UK:** Menoflavan.

Multi-ingredient: **Austral.:** Bioglan Mens Super Soy/Clover†; Bioglan Soy Power Plus; Lifechange Menopause Formula†; Trifolium Complex†; **Indon.:** Femosa; Osteopor; **Malaysia:** Cleansa Plus†; **Spain:** Fitogyn.

Cnicus Benedictus

Blessed Thistle; Cardo Santo; Chardon Bénit; Holy Thistle; Kardobenediktenkraut.

Profile

Cnicus benedictus, the flowering tops of *Cnicus benedictus* (*Carbenia benedicta*; *Carduus benedictus*) (Compositae), has been used as a bitter.

Homoeopathy. Cnicus benedictus has been used in homoeopathic medicines under the following names: *Carduus benedictus*.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: **Austria:** Mariazeller; **Braz.:** Digestron†; **Cz.:** Ungolent†; **Ger.:** Carvomin†; Cheiranthol†; Gallexier; Gastritol; **Pol.:** Artecholin; Artecholwex; **Rus.:** Original Grosser Bittner Balsam (Оригинальный Большой Бальзам Биттнера); **S.Afr.:** Essens Amara of Groen Amara; **Switz.:** Gastrosan; **UK:** Bio-Strath Artichoke Formula; Sure-Lax (Herbal).

Cobalt Chloride

Cloruro cobaltoso; Cobalto, cloruro de; Cobaltous Chloride; Kobaltu(II) chlorek.

CoCl₂·6H₂O = 237.9.

CAS — 7646-79-9 (*anhydrous cobalt chloride*); 7791-13-1 (*cobalt chloride hexahydrate*).

Adverse Effects

Reactions to cobalt have included anorexia, nausea and vomiting, diarrhoea, precordial pain, cardiomyopathy, flushing of the face and extremities, skin rashes, tinnitus, temporary nerve deafness, renal injury, diffuse thyroid enlargement, and hypothyroidism. In large doses it may reduce the production of erythrocytes.

◇ References.

- Kennedy A, *et al.* Fatal myocardial disease associated with industrial exposure to cobalt. *Lancet* 1981; **i**: 412-4.
- Cugell DW, *et al.* The respiratory effects of cobalt. *Arch Intern Med* 1990; **150**: 177-83.
- Evans P, *et al.* Cobalt and cobalt compounds. *Toxicity Review* 29. London: HMSO, 1993.

Uses and Administration

Cobalt chloride, when given to both normal and anaemic subjects, produces reticulocytosis and a rise in the erythrocyte count. This property suggested its use in the treatment of certain types of anaemia, but its general therapeutic use is, however, unjustified and not without danger.

In veterinary medicine, cobalt chloride has been given as a dietary supplement to ruminants.

Cobalt Oxide

Cobalto, óxido de; Tetraóxido de tricobalto; Tricobalt Tetroxide.

Co₃O₄ = 240.8.

CAS — 1308-06-1.

Pharmacopoeias. In *BP(Vet)*.

BP(Vet) 2008 (Cobalt Oxide). It consists of cobalt (II, III) oxide (tricobalt tetroxide) with a small proportion of cobalt (III) oxide (dicobalt trioxide). A black powder. Practically insoluble in water; dissolves in mineral acids and in solutions of alkali hydroxides.

Profile

Cobalt oxide is used in veterinary practice for the prevention of cobalt deficiency in ruminants. The chloride and sulfate have been used similarly. For the adverse effects of cobalt, see Cobalt Chloride, above.

Coccidioidin

Coccidioidina.

Pharmacopoeias. In *US*.

USP 31 (Coccidioidin). A sterile solution containing the antigens obtained from the byproducts of mycelial growth or from the spherules of the fungus *Coccidioides immitis*; it contains a suitable antimicrobial. A clear, practically colourless or amber-coloured liquid. Store at 2° to 8°. Any dilutions should be stored at 2° to 8° and used within 24 hours. The expiry date is not later than 3 years (mycelial product) or 18 months (spherule-derived product) after release from the manufacturer's cold storage.

Profile

Coccidioidin has been used as an aid to the diagnosis of coccidioidomycosis and, in conjunction with other antigens, to assess the status of cell-mediated immunity. A usual dose of 0.1 mL of a 1 in 100 dilution by intradermal (intracutaneous) injection has been used.

Preparations

USP 31: Coccidioidin.

Proprietary Preparations (details are given in Part 3)

USA: Spherulin.

Cocoyl Caprylocaprate

Coco-Caprylate/Caprate; Cocoyle, caprylocaprate de; Cocoylis caprylocapras; Cocoylis Octanodecanoas; Kokoilo kaprilokapratas; Kokoyl oktanodekanoat; Kokoylkaprylokapat; Kokoyliikaprylokapaatti; Kókuszalkoholok kaprilátjai és kaprátjai. *CAS* — 95912-86-0.

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

Ph. Eur. 6.2 (Cocoyl Caprylocaprate). A mixture of esters of saturated C₁₂ to C₁₈ alcohols with caprylic (octanoic) and capric (decanoic) acids obtained by the reaction of these acids with vegetable saturated fatty alcohols. Relative density about 0.86. Viscosity about 11 mPa.s. A slightly yellowish liquid. Practically insoluble in water; miscible with alcohol and with liquid paraffin.

Profile

Cocoyl caprylocaprate is used as an emollient.

Coenzyme A

CoA; CoASH; Coenzima A. 5'-O-[3-Hydroxy-3-[2-(2-mercaptoethylcarbamoyl)ethylcarbamoyl]-2,2-dimethylpropyl]adenosine-3'-dihydrogenphosphate-5'-trihydrogendiphosphate.

C₂₁H₃₆N₇O₁₆P₃S = 767.5.

CAS — 85-61-0.

Profile

Formed from adenosine triphosphate, cysteine, and pantothenic acid, coenzyme A is involved in the body in many physiological roles, including the formation of citrate, the oxidation of pyruvate, the oxidation and synthesis of fatty acids, the synthesis of triglycerides, cholesterol, and phospholipids, and the acetylation of amines, choline, and glucosamine. It has been given by injection in a variety of metabolic disorders.

Cogalactoisomerase Sodium

Cogalactoisomerasa sódica; UDPG; Uridine-5'-diphosphoglucose Sodium.

C₁₅H₂₂N₂Na₂O₁₇P₂·3H₂O = 664.3.

CAS — 133-89-1 (*cogalactoisomerase*).

Profile

Cogalactoisomerase sodium has been used in various hepatic disorders.

Preparations

Proprietary Preparations (details are given in Part 3)

Ital.: Bivitox†; Epatoxil†; Liverasi†; Toxepasi†.

Colforsin (USAN, rINN)

Boforsin; Colforsina; Colforsine; Colforsinum; Forscolin; Forskolin; HL-362; L-75-1362B. (3R,4aR,5S,6S,6aS,10S,10aR,10bS)-Dodecahydro-5,6,10,10b-tetrahydroxy-3,4a,7,7,10a-pentamethyl-3-vinyl-1H-naphtho[2,1-b]pyran-1-one, 5-acetate.

Колфорсин

C₂₂H₃₄O₇ = 410.5.

CAS — 66575-29-9.

The symbol † denotes a preparation no longer actively marketed