Preparations

Proprietary Preparations (details are given in Part 3)
Indon.: Coliopan; ***Jpn:*** Coliopan; ***Malaysia:*** Coliopan; ***Singapore:*** Coliopan†.

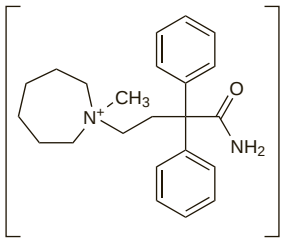
Buzepide Metiodide *(rINN)*

Buzépide, Métiodure de; Buzepidi Metiodidum; Diphexamide Iodomethylate; FI-6146; Metazepium Iodide; Metioduro de buzepida; R-661. 1-(3-Carbamoyl-3,3-diphenylpropyl)-1-methylperhydroazepinium iodide.

Бузепида Метйодид

$C_{23}H_{31}IN_2O$ = 478.4.

CAS — 15351-05-0.



Profile

Buzepide metiodide is a quaternary ammonium antimuscarinic with peripheral effects similar to those of atropine (p.1219). It has been given with other compounds for upper respiratory-tract disorders and in gastrointestinal disorders with smooth muscle spasm.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Fr.:*** Vesadol†; ***Ital.:*** Denoral†.

Calcium Carbonate

Calcii carbonas; Calcii Carbonas Praecipitatus (precipitated calcium carbonate); Calcium, carbonate de; Carbonato de calcio; Creta Preparada; E170; Kalcio karbonatas; Kalciumkarbonat; Kalcium-karbonát; Kalsiumkarbonaatti; Kalsiyum karbonat; Precipitated Calcium Carbonate; Precipitated Chalk; Uhličitan vápenatý; Wapnia węglan; Wapnia węglan strącony (precipitated calcium carbonate).

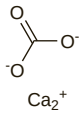
Кальция Карбонат

$CaCO_3$ = 100.1.

CAS — 471-34-1.

ATC — A02AC01; A12AA04.

ATC Vet — QA02AC01; QA12AA04.



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

Ph. Eur. 6.2 (Calcium Carbonate). A white or almost white powder. Practically insoluble in water.

USP 31 (Calcium Carbonate). A fine, white, odourless, microcrystalline powder. Practically insoluble in water; its solubility in water is increased by the presence of carbon dioxide or ammonium salts although the presence of any alkali hydroxide reduces its solubility; insoluble in alcohol; dissolves with effervescence in acetic acid, in hydrochloric acid, and in nitric acid.

Adverse Effects, Treatment, and Precautions

Calcium carbonate may occasionally cause constipation. Flatulence from released carbon dioxide may occur in some patients. High doses or prolonged use may lead to gastric hypersecretion and acid rebound. Like other calcium salts (see p.1676), calcium carbonate can cause hypercalcaemia, particularly in patients with renal impairment or after high doses. Alkalosis (p.1667) may also occur as a result of the carbonate anion. There have been rare reports of the milk-alkali syndrome, see below, and tissue calcification.

For precautions to be observed with the use of calcium carbonate, see Calcium, p.1676.

Milk-alkali syndrome. The milk-alkali syndrome of hypercalcaemia, alkalosis and renal impairment was first identified in the 1920s and may still occur in patients who ingest large amounts of calcium and absorbable alkali,[1,2] and in patients being treated for osteoporosis with calcium carbonate plus other drugs that may increase the absorption of calcium.[1] It is not uncommon as a cause of hypercalcaemia requiring hospitalisation.[1] The syndrome has also been reported in a patient taking recommended doses of antacids containing calcium carbonate for chronic epigastric discomfort,[3] and in a pregnant woman taking high, but not grossly excessive, doses of calcium (about 3 g of elemental calcium daily).[4] Metastatic calcification can develop.[5]

For reference to thiazide diuretics increasing the risk of the milk-alkali syndrome in patients taking moderately large doses of calcium carbonate, see p.1310.

1. Picolos MK, *et al.* Milk-alkali syndrome is a major cause of hypercalcaemia among non-end-stage renal disease (non-ESRD) inpatients. *Clin Endocrinol (Oxf)* 2005; **63:** 566–76.
2. Felsenfeld AJ, Levine BS. Milk alkali syndrome and the dynamics of calcium homeostasis. *Clin J Am Soc Nephrol* 2006; **1:** 641–54.
3. Camidge R, Peaston R. Recommended dose antacids and severe hypercalcaemia. *Br J Clin Pharmacol* 2001; **52:** 341–2.
4. Gordon MV, *et al.* Life-threatening milk-alkali syndrome resulting from antacid ingestion during pregnancy. *Med J Aust* 2005; **182:** 350–1.
5. Duthie JS, *et al.* Milk-alkali syndrome with metastatic calcification. *Am J Med* 1995; **99:** 102–3.

Interactions

As for other calcium salts, p.1677.

As outlined on p.1692, antacids, including calcium salts, interact with many other drugs both by alterations in gastric pH and emptying, and by formation of complexes that are not absorbed. Interactions can be minimised by giving calcium carbonate and any other medication 2 to 3 hours apart.

Omeprazole. In a study[1] of 18 women over the age of 65, the use of omeprazole for a week significantly reduced the absorption of calcium from a calcium carbonate supplement given on an empty stomach. Fractional calcium absorption was reduced from 9.1% with placebo to 3.5% with omeprazole.

1. O'Connell MB, *et al.* Effects of proton pump inhibitors on calcium carbonate absorption in women: a randomized crossover trial. *Am J Med* 2005; **118:** 778–81.

Pharmacokinetics

Calcium carbonate is converted to calcium chloride by gastric acid. Some of the calcium is absorbed from the intestines and the unabsorbed portion is excreted in the faeces, as described for other calcium salts, p.1677.

Uses and Administration

Calcium carbonate is used as an antacid (p.1692), usually in oral doses of up to about 1.5 g. It is often given with other antacids, especially magnesium-containing antacids.

Calcium carbonate is also used as a calcium supplement in deficiency states and as an adjunct in the management of osteoporosis, as described under Calcium, p.1677.

Calcium carbonate binds phosphate in the gastrointestinal tract to form insoluble complexes and reduces phosphate absorption. It is used to treat hyperphosphataemia in patients with chronic renal failure (see Renal Osteodystrophy, p.1086) or associated secondary hyperparathyroidism (p.1087). For this purpose, initial doses of 2.5 g daily by mouth in divided doses have been given, increased to up to 17 g daily in divided doses as required. The *BNFC* suggests the following doses in infants and children, given 3 or 4 times daily with or before meals, and adjusted as necessary:

- 1 month to 1 year of age, 120 mg
- 1 to 6 years, 300 mg
- 6 to 12 years, 600 mg
- 12 to 18 years, 1.25 g

Calcium carbonate is also used as a food additive.

Homoeopathy. Native forms of calcium carbonate have been used in homoeopathic medicines under the following names: Calcarea Carbonica; Calc. Carb.; Calcium carbonicum Hahnemanni; Conchae; Calcium Carbonate of Hahnemann; Cal. carb.

Preparations

BP 2008: Alginate Raft-forming Oral Suspension; Calcium and Colecalciferol Tablets; Chewable Calcium Carbonate Tablets;
USP 31: Alumina, Magnesia, and Calcium Carbonate Oral Suspension; Alumina, Magnesia, and Calcium Carbonate Tablets; Alumina, Magnesia, Calcium Carbonate, and Simethicone Tablets; Aluminum Subacetate Topical Solution; Calcium and Magnesium Carbonates Oral Suspension; Calcium and Magnesium Carbonates Tablets; Calcium Carbonate and Magnesia Tablets; Calcium Carbonate Lozenges; Calcium Carbonate Oral Suspension; Calcium Carbonate Tablets; Calcium Carbonate, Magnesia, and Simethicone Tablets.

Proprietary Preparations (details are given in Part 3)
Arg.: Bica†; Calcio Acido; Calcional; Calcium-Sandoz; Cavirox Junior†; Dexacid†; Mylanta Pocket†; Pluscal; Renacalcio; Ultracalcium; Uvasal Tums; ***Austral.:*** Andrews Tums Antacid; Cal-Sup; Caltrate; Sandocal; Titralac; ***Austria:*** Calcium-Sandoz; Dreisacarb; ***Belg.:*** Cacit; Calci-Chew; Sandoz Calcium; Steocar; ***Braz.:*** Calcium-Sandoz F; Calciumvit†; Calsan; Maxicalc; Natecal†; Nutricalcio†; Os-Cal; Osporin†; Osseopor; ***Canad.:*** Apo-Cal; Cal-500; Calcite; Calcium Oyster Shell; Calcium-Sandoz†; Calsan; Caltrate; Hi Potency Cal; Maalox Extra Strength; Maalox Quick Dissolve†; Maalox Regular Strength; Neo Cal; Nu Cal; Os-Cal; Tums; ***Chile:*** Aplical†; Calcefor; Calcefor Cap; Calcio; Calcium Factor; Calcium-Sandoz; Calcivorin; Caprimida; Elcal; Kaplus; Levucal; Natecal; Sanidecal; ***Cz.:*** Maxi-Kalz; Vitacalcin; ***Denm.:*** Calcium-Sandoz; ***Fin.:*** Calcichew; Calcium-Sandoz; Kalcidon; Kalcipos; ***Fr.:*** Cacit; Calcidia; Calcidose; Calciprat; Calcium-Sandoz; Calperos; Calprimum; Caltrate; Densical; Densical vitamine D ; Eucalcic; Fixical; Osteocal; Perical; ***Ger.:*** Basti-Cal†; Biolectra Calcium†; Calci-Gry; Calcigamma; Calcimagon; Calcimed†; Calcitridin†; Calcium AL; Calcium beta; Calcium Dago†; Calcium Heumann†; Calcium Hexal†; Calcium Stada; Calcium Verla; Calcium von CT; Calcium-dura; Calcium-Sandoz; CC-Nefro; Dreisacarb; Loscalcon; Ospur Ca; Vivural†; ***Gr.:*** Alcamex; Body-Calcin; Calcioral; Tums; ***Hong Kong:*** Apo-Cal; Calcichew†; Calcium-Sandoz†; Caltrate; Os-Cal; Scott's Hi-Calcium; Titralac; ***Hung.:*** Beres Calcium; Calcicarb; Calcichew; Calcium-Sandoz; ***India:*** Calcium-Sandoz; Sandocal†; ***Indon.:*** Calcium-Sandoz Junior Strength; Calnat; Calos; Calsan; Osteocal; Stomacain; ***Irl.:*** Cacit†; Calcichew; Rennie Chewable Tablets; Rowarolan; Sandocal; Tums†; ***Israel:*** Calci-Rav; Calcimore; Calcium-Sandoz; Caltrate; Fast; Tums; Tzarevet X; ***Ital.:*** Adiecal; Biocalcium; Cacit; Cal-Car; Calbisan†; Calciodie; Calciopiu; Calcium-Sandoz; Calma; Carbo; Carbosint; Carbotop†; Citracal†; Fervical†; Idracal; Lubical; Metocal; Recal; Salicalcium†; Savecal; Top Calcium; Unical†; ***Malaysia:*** Apo-Cal†; Cal-Sup; Caltrate; ***Mex.:*** Bexacal; Calcifar; Calcium-Sandoz; Calsan; Caltrate; Ciocar; Grisical†; Mubonet; Osteomin; Solibone; Tums; ***Neth.:*** Cacit; Calci-Chew; Calcium-Sandoz; ***Norw.:*** Calcium-Sandoz; Titralac; ***NZ:*** Calcium-Sandoz; Caltrate; Osteo; Titralac; ***Philipp.:*** Calci-Aid; Calcium-Sandoz; Calmate; Calsan; Tums; ***Pol.:*** Additiva Calcium; Calcium-Sandoz Forte; Calperos; FrutiCal; Ostical; Vicalvit; ***Port.:*** Calcior; Calcioral; Calcitab; Calcium-Sandoz; Natecal; Sandocal; Tums; ***Rus.:*** Calcium-Sandoz Forte (Кальций-Сандоз Форте); ***S.Afr.:*** Calcichew; Calcium-Sandoz; Calsuba; Caltrate; Titralac; Tums; ***Singapore:*** Cal-Sup†; Calcium-Sandoz; Caltrate; ***Spain:*** Calcio 20†; Calcium-Sandoz Forte; Caosina; Carbocal; Cimascal; Densical; Fortical†; Mastical; Natecal; ***Swed.:*** Calcitugg; Calcium-Sandoz; Kalcidon; Kalcipos; Kalcitena; ***Switz.:*** Calcium-Sandoz; Calperos; Fixateur phospho-calcique; Maxi-calc†; ***Thai.:*** Bo-Ne-Ca; Cal-Os; Calcanate; Calcar; Calcarbonate; Calcium Central Poly; Calcium-Sandoz; Calsum; Caltab; Caltrate; Carbocal; Carbocalc; Kal-Forte; Prima-Cal; Sorcal†; Weifa-Calcium; ***Turk.:*** Anti-Fosfat Cc; Calcium-Sandoz; ***UK:*** Adcal; Cacit; Calcichew; Rapeze; Remegel; Rennie Soft Chews; Sandocal; Sea-Cal; Setlers; Titralac†; Tums; ***USA:*** Alka-Mints; Alkets†; Amitone†; Antacid; Calci-Chew; Calci-Mix; Calcium-600; Caltrate; Chooz; Equilet†; Maalox Antacid/Calcium†; Maalox Childrens; Maalox Quick Dissolve†; Mallamint; Mylanta; Nephro-Calci; Os-Cal; Oysco; Oyst-Cal; Rolaids Extra Strength Softchews; Surpass; Titralac Extra Strength; Trial Antacid; Tums; ***Venez.:*** Calcion; Calcium-Sandoz; Caltrate†; Foscalvit; Frutacid; Oscal†; Sandocal; Titralac; Tums.

Multi-ingredient: numerous preparations are listed in Part 3.

Used as an adjunct in: ***Arg.:*** Aspirina; Bufferin†; ***Braz.:*** Bufferin; ***Canad.:*** Aspirin with Stomach Guard; Bufferin; Tri-Buffered ASA; ***Hung.:*** Kalmopyrin; ***Ital.:*** Bufferin†; ***Pol.:*** Calcipiryna; Polopiryna S; ***USA:*** Adprin-B; Ascriptin; Asprimox; Bufferin; Extra Strength Bayer Plus; Magnaprin†.

Carbenoxolone Sodium *(BANM, USAN, rINNM)*

Carbenoxolona sódica; Carbénoxolone Sodique; Disodium Enoxolone Succinate; Karbenoksolon Sodyum; Natrii Carbenoxolonum. 3β-(3-Carboxypropionyloxy)-11-oxo-olean-12-en-30-oic acid, Disodium Salt.

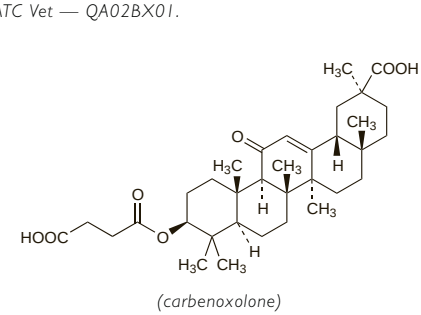
Натрий Карбеноксолон

$C_{34}H_{48}Na_2O_7$ = 614.7.

CAS — 5697-56-3 (carbenoxolone); 7421-40-1 (carbenoxolone disodium).

ATC — A02BX01.

ATC Vet — QA02BX01.



(carbenoxolone)

Pharmacopoeias. In *Br.*

BP 2008 (Carbenoxolone Sodium). A white or pale cream-coloured, hygroscopic powder. Freely soluble in water; sparingly soluble in alcohol; practically insoluble in chloroform and in ether. A 10% solution in water has a pH of 8.0 to 9.2.

Adverse Effects, Treatment, and Precautions

Carbenoxolone sodium has mineralocorticoid-like effects and ingestion may produce sodium and water retention and hypoka-

laemia. This may cause or exacerbate hypertension, heart failure, oedema, alkalosis, and muscle weakness and damage, and systemic carbenoxolone should therefore be used with caution, if at all, in patients with cardiovascular disease. If hypokalaemia is prolonged, renal impairment can occur. Care is needed in pre-existing hepatic or renal impairment. Regular monitoring of weight and blood pressure is advised; if hypokalaemia, oedema, or a significant rise in blood pressure occurs, carbenoxolone therapy should be stopped. Potassium depletion may be corrected with potassium supplements. Systemic use of carbenoxolone sodium is contra-indicated in patients with hypokalaemia, in pregnancy, in the elderly, and in children.

◊ Muscle weakness,[1-5] muscle necrosis,[4] myopathy,[1] hypertension,[2] headache,[2] cardiac failure,[2] mental confusion,[4] areflexia,[3] renal tubular dysfunction,[5] and acute tubular necrosis[4] have all been associated with carbenoxolone-induced hypokalaemia. Carbenoxolone-induced hypertension may have precipitated the onset of fatal polyarteritis in a patient predisposed to this condition.[6]

1. Fyfe T, *et al.* Myopathy and hypokalaemia in carbenoxolone therapy. *BMJ* 1969; **3:** 476.
2. Davies GJ, *et al.* Complications of carbenoxolone therapy. *BMJ* 1974; **3:** 400–2.
3. Royston A, Prout BJ. Carbenoxolone-induced hypokalaemia simulating Guillain-Barré syndrome. *BMJ* 1976; **2:** 150–1.
4. Descamps C, *et al.* Rhabdomyolysis and acute tubular necrosis associated with carbenoxolone and diuretic treatment. *BMJ* 1977; **1:** 272.
5. Dickinson RJ, Swaminathan R. Total body potassium depletion and renal tubular dysfunction following carbenoxolone therapy. *Postgrad Med J* 1978; **54:** 836–7.
6. Sloan J, Weaver JA. A case of polyarteritis developing after carbenoxolone therapy. *Ir Med J* 1968; **1:** 505–7.

Handling. Carbenoxolone sodium powder is irritant to nasal membranes.

Interactions
Because of the risk of toxicity, carbenoxolone should not be taken with digitalis glycosides unless serum-electrolyte concentrations are measured at weekly intervals and precautions are taken to avoid hypokalaemia.

Although amiloride or spironolactone relieve sodium and water retention, they antagonise the efficacy of systemic carbenoxolone and should not be used with it. The hypokalaemia associated with diuretics may be exacerbated by carbenoxolone.

Pharmacokinetics
Carbenoxolone sodium is absorbed from the gastrointestinal tract, mainly from the stomach. It is highly bound to plasma proteins. Carbenoxolone is chiefly excreted in the faeces via the bile. It appears to undergo enterohepatic circulation.

Uses and Administration
Carbenoxolone sodium is a synthetic derivative of glycyrrhizic acid (p.2316) that was formerly used as a mucosal protectant in peptic ulcer disease and has been given with antacids and alginic acid in gastro-oesophageal reflux disease.

Carbenoxolone sodium is one of many topical treatments for the symptomatic management of mouth ulceration (p.1700). It is usually used as a 2% gel; a 1% mouthwash has been used.

Mental function. High cortisol concentrations have been associated with poorer memory and neuronal loss in some patients. Carbenoxolone inhibits 11-β-hydroxysteroid dehydrogenase type 1, and thus may selectively lower intracellular cortisol. In a small crossover study in 10 healthy elderly men, carbenoxolone 100 mg three times daily by mouth for 4 weeks significantly improved verbal fluency compared with placebo, but did not influence visual or verbal memory, nonverbal reasoning, or processing speed. Twelve patients with stable type 2 diabetes were given carbenoxolone at the same dose for 6 weeks. Verbal memory was significantly improved compared with placebo, but verbal fluency and other scores were unaltered. All subjects were given amiloride 10 mg daily to prevent mineralocorticoid adverse effects (but see Interactions, above).[1]

1. Sandeep TC, *et al.* 11β-Hydroxysteroid dehydrogenase inhibition improves cognitive function in healthy elderly men and type 2 diabetics. *Proc Natl Acad Sci U S A* 2004; **101:** 6734–9.

Preparations
Proprietary Preparations (details are given in Part 3)

Austral.: Bioral; ***Austria:*** Rowadermat; ***Hong Kong:*** Herpesan; ***Hung.:*** Carbosan; ***Irl.:*** Carbosan; ***Malaysia:*** Herpesan; ***Philipp.:*** Rowagel; ***Singapore:*** Herpesan; ***Spain:*** Sanodin; ***UK:*** Bioplex†; Bioral†.

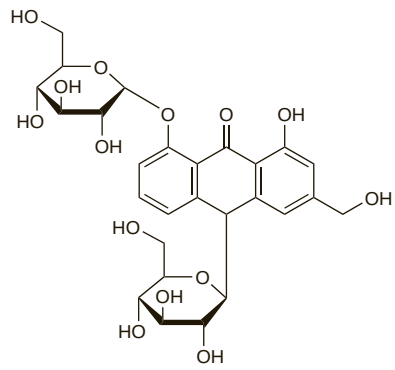
Multi-ingredient: ***Irl.:*** Pyrogastrone; ***UK:*** Pyrogastrone†.

Casanthranol *(USAN)*

Casantranol.

Казантранол

CAS — 8024-48-4.



(cascaroside A)

Pharmacopoeias. In *US*.

USP 31 (Casanthranol). It is obtained from cascara. It contains not less than 20% of total hydroxyanthracene derivatives calculated on the dried basis, of which not less than 80% consists of cascarosides, both calculated as cascaroside A ($C_{27}H_{32}O_{14}$ = 580.5).

It is a light tan to brown, amorphous, hygroscopic powder. Freely soluble in water with some residue; partially soluble in methyl alcohol and in hot isopropyl alcohol; practically insoluble in acetone. Store in airtight containers at a temperature not exceeding 30°. Protect from light.

Profile
Casanthranol is an anthraquinone stimulant laxative with general properties similar to those of senna (p.1769). It is given in usual oral doses of 30 to 60 mg daily with a faecal softener. In severe cases a dose of 90 mg daily, or 60 mg twice daily, may be given.

Preparations
Proprietary Preparations (details are given in Part 3)

Belg.: Cascalax†; ***Neth.:*** Cascalax.

Multi-ingredient: ***Arg.:*** Bil 13; En-Ga-Lax; ***Canad.:*** Peri-Colace†; ***Spain:*** Laxvital; ***USA:*** Black-Draught†; Docusoft Plus; Genasoft Plus Softgels†; Laxative & Stool Softener; Peri-Dos Softgels†; Silace-C†.

Cascara

Amerikinių šaltekšnių žievė; Cáscara sagrada; Cascararinde; Chittem Bark; Kaszkarabokor kéreg; Kůra řešetláku Purshova; Rhamni purshianae cortex; Rhamni Purshiani Cortex; Sacred Bark; Sagradabark; Sagradankuori.

Жостер Пурша; Крушина Пурша

CAS — 8047-27-6; 8015-89-2 (cascara sagrada extract).
ATC — A06AB07.
ATC Vet — QA06AB07.

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

Ph. Eur. 6.2 (Cascara). The dried, whole or fragmented bark of *Rhamnus purshianus* (=*Frangula purshiana*). It contains not less than 8.0% of hydroxyanthracene glycosides of which not less than 60% consists of cascarosides, both expressed as cascaroside A ($C_{27}H_{32}O_{14}$ = 580.5). and calculated with reference to the dried drug. Protect from light.

USP 31 (Cascara Sagrada). The dried bark of *Rhamnus purshianus* (Rhamnaceae). It contains not less than 7% of total hydroxyanthracene derivatives calculated on the dried basis, of which not less than 60% consists of cascarosides, both calculated as cascaroside A. It has a distinct odour.

Profile
Cascara is an anthraquinone stimulant laxative with general properties similar to those of senna (p.1769). It has been used in the treatment of constipation in oral doses equivalent to about 20 mg of total hydroxyanthracene derivatives daily.

Breast feeding. No adverse effects have been seen in breast-fed infants whose mothers were receiving cascara, and the American Academy of Pediatrics considers[1] that it is therefore usually compatible with breast feeding.

1. American Academy of Pediatrics. The transfer of drugs and other chemicals into human milk. *Pediatrics* 2001; **108:** 776–89. Correction. *ibid.*; 1029. Also available at: http://aappolicy.aappublications.org/cgi/content/full/pediatrics%3b108/3/776 (accessed 08/11/06)

Preparations
BP 2008: Cascara Dry Extract; Cascara Tablets;
USP 31: Aromatic Cascara Fluidextract; Cascara Sagrada Extract; Cascara Sagrada Fluidextract; Cascara Tablets.

Proprietary Preparations (details are given in Part 3)

Arg.: Natulax; ***Braz.:*** Laxsotrin; ***Fr.:*** Peristaltine; ***Ger.:*** Legapas; ***Port.:*** Laxolen†.

Multi-ingredient: ***Arg.:*** Bilidren; Calculina†; Cascara Sagrada Bouzen†; Cascara Sagrada Oligoplex; Cascara Sagrada Puler†; Veracolate; Yuyo; ***Austral.:*** Colax; Peritone; ***Austria:*** Cascara-Salax; Dragees Neunzehn†; Silberne; ***Belg.:*** Grains de Vals; Vethoine; ***Braz.:*** Bilifel†; Boldopeptan†; Chofranina; Composto Emagrecedor†; Emagrevit†; Eparema; Jurubileno†; Pílulas De Witt's†; Prisoventnl†; Solvobil; Ventre Livre†; ***Canad.:*** Bicholate; Cholasyn II; Cholasyn†; Control; Doulax; Extra Strong Formula 12†; Herbal Laxative; Herbal Laxative plus Yogurt; Herbal Laxative†; Herbalax†; Herbolax; Herborex; Laxaco; Laxative†; Mucinum†; Thunas Laxative†; ***Chile:*** Bulgarolax; ***Fr.:*** Dragees Fuca; Dragees Vegetales Rex; Grains de Vals; Imegul†; Mucinum a l'Extrait de Cascara; ***Hong Kong:*** Mucinum Cascara†; ***Ital.:*** Amaro Medicinale; Coladren; Combilax; Confetti Lassativi CM; Critichol; Digelax†; Dis-Cinil Complex; Draverex; Eparema; Eparema-Levul; Eupatol; Fave di Fuca; Grani di Vals; Hepatos; Hepatos B12; Lassatina†; Magisbile†; Mepalax; Schias-Amaro Medicinale†; Solvobil; Stimolfit; Vadolax†; ***Norw.:*** Cosylan; ***Port.:*** Caroid†; Mucinum; ***S.Afr.:*** Moultons Herbal Extract; Veracolate†; ***Spain:*** Crislaxo; Lipograsil; Menabil Complex†; Nico Hepatocyn; Píldoras Zeninas; ***Swed.:*** Emulax; ***Switz.:*** Padma-Lax; Padmed Laxan; ***Thai.:*** Flatulence; Hemolax; Veracolate; ***UK:*** Dual-Lax Extra Strong; Dual-Lax Normal Strength; Jacksons Herbal Laxative; Laxative Tablets; Modern Herbals Laxative; Modern Herbals Pile; Natural Herb Tablets; Out-of-Sorts; Pileabs; Piletabs; Rhuaka; Senokot Dual Relief; Skin Eruptions Mixture; ***USA:*** Concentrated Milk of Magnesia-Cascara; ***Venez.:*** Gameral.

Cassia Pulp

Fístula, pulpa de caña.

Мякоть Амалтас

Profile
Cassia pulp is the evaporated aqueous extract of crushed ripe cassia fruits (cassia pods), *Cassia fistula* (Leguminosae). It is a mild anthraquinone stimulant laxative with general properties similar to those of senna (p.1769).

Preparations
Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Braz.:*** Fitolax; Florlax; Fontolax; Forlax; Frutalax†; Laxarine†; Laxtam; Naturetti; Sene Composta†; Tamaril; Tamarine; Tamarix†; ***Fr.:*** Benetransit; ***Ital.:*** Miracolon; Tamarine; ***Mex.:*** Naturetti†; ***S.Afr.:*** Entressdruppels HM; ***Spain:*** Pruina.

Cerium Oxalate

Cerii Oxalas; Cerio, oxalato de; Ceriumoksalaatti; Ceriumoxalat.

Церия Оксалат

CAS — 139-42-4 (anhydrous cerous oxalate); 15053-73-3 (cerous oxalate decahydrate).
ATC — A04AD02.
ATC Vet — QA04AD02.

NOTE. Cerium oxalate has been defined as consisting of about 50% of cerous oxalate ($(C_2O_4)_3Ce_2,10H_2O$) with the oxalates of numerous other rare earths, especially lanthanum, praseodymium, and neodymium. Oxalates of the form $(C_2O_4)_3Ce_2,xH_2O$ are also referred to as cerium or cerous oxalate.

Profile
Cerium oxalate has been used as an antiemetic.

Preparations
Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Spain:*** Novonausin†.

Certolizumab Pegol *(BAN, USAN, rINN)*

CDP-870; Certolizumab Pégol; Certolizumabum Pegolum; PHA-738144.

Цертолизумаб Пегол

CAS — 428863-50-7.
ATC — L04AB05.
ATC Vet — QL04AB05.

Adverse Effects and Precautions
As for Infliximab, p.69.

Interactions
As for Infliximab, p.71

Uses and Administration
Certolizumab pegol is a pegylated tumour necrosis factor antibody fragment. It is used in the treatment of patients with moderate to severe, active Crohn's disease (p.1697) who have had an inadequate response to conventional treatment. The initial dose is 400 mg given as two subcutaneous injections of 200 mg, repeated after 2 and 4 weeks. Patients who have a clinical response may then receive a maintenance dose of 400 mg every 4 weeks. Certolizumab pegol is also under investigation in the treatment of rheumatoid arthritis and psoriasis.

◊ References.

1. Schreiber S, *et al.* A randomized, placebo-controlled trial of certolizumab pegol (CDP870) for treatment of Crohn's disease. *Gastroenterology* 2005; **129:** 807–18. Correction. *ibid.*; 1808. [dose]
2. Sandborn WJ, *et al.* PRECISE 1 Study Investigators. Certolizumab pegol for the treatment of Crohn's disease. *N Engl J Med* 2007; **357:** 228–38.
3. Schreiber S, *et al.* PRECISE 2 Study Investigators. Maintenance therapy with certolizumab pegol for Crohn's disease. *N Engl J Med* 2007; **357:** 239–50. Correction. *ibid.*: 1357.

Preparations
Proprietary Preparations (details are given in Part 3)

Switz.: Cimzia; ***USA:*** Cimzia.