also been used. The name long buchu is also applied to *A. serratifolia* (*B. serratifolia*). The leaves of *A. serratifolia* are also used medicinally.

Buchu leaf oil, usually from *A. betulina*, is occasionally promoted for use in aromatherapy, although it is rarely used in practice.

Homoeopathy. Buchu has been used in homoeopathic medicines under the following names: Barosma crenata; Bar. cren.; Barosma serratifolia; Bar. ser.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Arg.:*** Water Pill c Potasio†; ***Austral.:*** Althaea Complex; Bioglan Cranbiotic Super; Cranberry Complex; De Witts New Pills; Extralife Uri-Care; Fluid Loss†; Medinat PMT-Eze†; PMS Support†; Serenoa Complex†; Urinase†; Uva-Ursi Complex†; ***Canad.:*** Herbal Diuretic; Herbal Laxative plus Yogurt; ***Cz.:*** Epilobin; ***Fr.:*** Urophytum†; ***NZ:*** De Witts Pills†; ***S.Afr.:*** Borstol Cough Remedy; Doans Backache Pills; Docrub; ***Switz.:*** Heparfelien; Urinex; ***UK:*** Antitis; Backache; Backache Relief; De Witt's K & B Pills; Diuretabs; HRI Water Balance; Kas-Bah; Skin Eruptions Mixture; Watershed.

Bucillamine *(rINN)*

Bucilamina; Bucillaminum; DE-019; SA-96; Tiobutarit. *N*-(2-Mercapto-2-methylpropionyl)-L-cysteine.

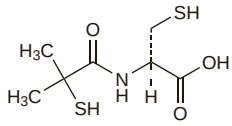
Буцилламин

$C_7H_{13}NO_3S_2$ = 223.3.

CAS — 65002-17-7.

ATC — M01CC02.

ATC Vet — QM01CC02.



Pharmacopoeias. In *Jpn*.

Profile

Bucillamine is structurally related to penicillamine (p.1456) and is reported to be an immunomodulator that has been used in the treatment of rheumatoid arthritis.

Adverse effects. Bucillamine has been implicated in the development of skin,[1] kidney,[2,3] and lung disorders.[4]

1. Ogata K, *et al*. Drug-induced pemphigus foliaceus with features of pemphigus vulgaris. *Br J Dermatol* 2001; **144:** 421–2.
2. Nagahama K, *et al*. Bucillamine induces membranous glomerulonephritis. *Am J Kidney Dis* 2002; **39:** 706–12.
3. Hoshino J, *et al*. Outcome and treatment of bucillamine-induced nephropathy. *Nephron Clin Pract* 2006; **104:** c15–c19.
4. Saito Y, *et al*. A case of bucillamine-induced interstitial pneumonia with positive lymphocyte stimulation test for bucillamine using bronchoalveolar lavage lymphocytes. *Intern Med* 2007; **46:** 1739–43.

Preparations

Proprietary Preparations (details are given in Part 3)

Jpn: Rimatil.

Buckwheat

Blé Noir; Boekweit; Boveteört (aerial parts); Buchweizen; Fagopyri Herba (aerial parts); Grano Turco; Grikių žolė (aerial parts); Pohanková nať (aerial parts); Sarrasin; Sarrasin Commun; Viljatatar (aerial parts); Ziele gryki.

Гречиха Обыкновенная

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

Ph. Eur. 6.2 (Buckwheat Herb; Fagopyri Herba). The whole or cut aerial parts of *Fagopyrum esculentum*. It contains a minimum 4.0% of rutoside, calculated with reference to the dried drug. Protect from light.

Profile

The aerial parts of buckwheat, *Fagopyrum esculentum* (Polygonaceae), are included in herbal preparations for chronic venous insufficiency.

Buckwheat contains flavonoids and is a source of rutoside (see p.2305).

Homoeopathy. Buckwheat has been used in homoeopathic medicines under the following names: Fagopyrum; Fagopyrum esculentum Fago. esc.

Preparations

Proprietary Preparations (details are given in Part 3)

Ger.: Fagorutin Buchweizen.

Multi-ingredient: ***Fr.:*** Flebior; ***Ger.:*** Fagorutin Buchweizen; ***Pol.:*** Betasol; Fitoven.

Bucladesine Sodium *(rINNM)*

Bucladesina sódica; Bucladésine Sodique; DBcAMP (bucladesine); Dibutyryl Cyclic AMP Sodium; DT-5621 (bucladesine); Natrii Bucladesinum. *N*-(9-β-D-Ribofuranosyl-9*H*-purin-6-yl)butyramide cyclic 3′,5′-(hydrogen phosphate) 2′-butyrate sodium.

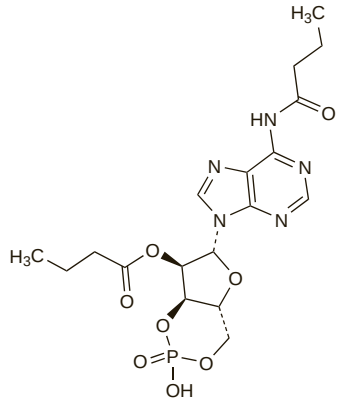
Натрий Букладезин

$C_{18}H_{24}N_5O_8PNa$ = 492.4.

CAS — 362-74-3 (bucladesine); 16980-89-5 (bucladesine sodium).

ATC — C01CE04.

ATC Vet — QC01CE04.



(bucladesine)

Profile

Bucladesine sodium has been reported to have cardiotonic properties when given intravenously. It has been applied topically for the treatment of bedsores.

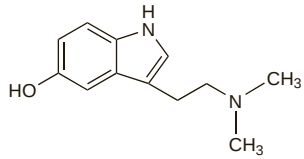
Bufotenine

Bufotenin; Bufotenina; *NN*-Dimethylserotonin; 5-Hydroxy-*NN*-dimethyltryptamine; Mappine. 3-(2-Dimethylaminoethyl)indol-5-ol.

Буфотенин

$C_{12}H_{16}N_2O$ = 204.3.

CAS — 487-93-4.



Profile

Bufotenine is an indole alkaloid obtained from the seeds and leaves of *Piptadenia peregrina*, from which the hallucinogenic snuff cohoba is prepared, and *P. macrocarpa* (Mimosaceae). It was first isolated from the skin glands of toads (*Bufo* spp.) and has also been isolated from species of *Amanita* (Agaricaceae). Bufotenine has serotonergic activity and is reported to have hallucinogenic properties. It has no therapeutic use.

Buphenine Hydrochloride *(BANM, rINNM)* ⊗

Buphénine, Chlorhydrate de; Buphenini Hydrochloridum; Hidrocloruro de bufenina; Nylidrin Hydrochloride; Nylidrinium Chloride. 1-(4-Hydroxyphenyl)-2-(1-methyl-3-phenylpropylamino)-propan-1-ol hydrochloride.

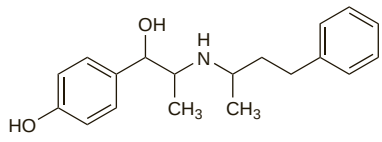
Буфенина Гидрохлорид

$C_{19}H_{25}NO_2.HCl$ = 335.9.

CAS — 447-41-6 (buphenine); 849-55-8 (buphenine hydrochloride).

ATC — C04AA02; G02CA02.

ATC Vet — QC04AA02; QG02CA02.



(buphenine)

Adverse Effects and Precautions

As for Sympathomimetics, p.1407; buphenine has mainly beta-agonist effects.

Uses and Administration

Buphenine produces peripheral vasodilatation through beta-adrenoceptor stimulation and a direct action on the arteries and arterioles of the skeletal muscles.

Buphenine has been used in the treatment of peripheral vascular and cerebrovascular disease. It has also been used in preparations for rhinitis and nasal congestion. Doses of buphenine hydrochloride in the range of 3 to 12 mg three or four times daily have been given orally.

An intravenous infusion of buphenine hydrochloride has been used to arrest premature labour. It has also been given orally as a prophylactic tocolytic agent.

Preparations

Proprietary Preparations (details are given in Part 3)

Austria: Dilatol; ***Canad.:*** Arlidin; ***India:*** Arlidin; ***Mex.:*** Arlidin; Nilken; ***Switz.:*** Tocodrine†.

Multi-ingredient: ***Austria:*** Arbid; Dilaescol; Dilatol-Chinin; Opino; Tropoderm; ***Fr.:*** Ophtadil†; Phlebogel; ***Ger.:*** Apoplectal N†; opino N spezial†; ***Gr.:*** Opino-jel; ***Indon.:*** Opino; ***Mex.:*** Flumil; ***Switz.:*** Arbid; Visaline.

Burnet

Garden Burnet; Greater Burnet; Pimpinela mayor; Sanguisorba.

NOTE. Distinguish from Burnet Saxifrage (below).

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

Ph. Eur. 6.2 (Sanguisorba Root). The whole or fragmented, dried underground parts of *Sanguisorba officinalis* without rootlets. The adventitious roots are about 5 to 25 cm long and up to 2 cm in diameter. They contain a minimum 5.0% of tannins, expressed as pyrogallol ($C_6H_6O_3$ = 126.1) calculated with reference to the dried drug.

Profile

Burnet, the aerial parts and roots of *Sanguisorba officinalis* (*Poterium officinalis*) (Rosaceae), has antihaemorrhagic and astringent properties. It has been used internally to treat menorrhagia and gastrointestinal disorders and is also used topically for eczema, burns, and other skin disorders.

Burnet is also used as an animal fodder and salad vegetable, and as an ingredient in beer making.

Homoeopathy. Burnet has been used in homoeopathic medicines under the following names: Sanguisorba officinalis.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Canad.:*** Swiss Herb Cough Drops; ***Cz.:*** Tormentan; ***Indon.:*** Ambeven.

Burnet Saxifrage

Bibernell; Boucage; Pimpinella.

NOTE. Distinguish from Burnet (above).

Profile

The root of burnet saxifrage, *Pimpinella saxifraga* (Apiaceae), or greater burnet saxifrage, *P. major* is included in herbal preparations for coughs and minor upper respiratory-tract disorders.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Arg.:*** Expectosan Hierbas y Miel; ***Canad.:*** Original Herb Cough Drops; ***Cz.:*** Bronchicum Elixir†; Bronchicum Hustensirup†; ***Ger.:*** Bronchicum Elixir N†; Majocarmin forte†; ***Neth.:*** Bronchicum; ***Pol.:*** Bronchicum Eliksir; ***S.Afr.:*** Bronchicough†; Bronchicum†; ***Spain:*** Himelan†; Natusor Aerofane†; Natusor Astringel†; Regamint†; ***Switz.:*** Kernosan Elixir; Kernosan Heidelberger Poudre; Makaphyt Gouttes antitussives.

Butcher's Broom

Box Holly; Dygiųjų pelžiedžių šakniastiebiai; Kłącze ruszczyka; Listnatcový kořen; Petit houx; Rautamyrtinjuurakko; Rusci Radix; Rusci rhizoma; Stickmyrtenrot.

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

Ph. Eur. 6.2 (Butcher's Broom; Rusci Rhizoma). The dried, whole or fragmented underground parts of *Ruscus aculeatus*. It contains a minimum of 1.0% of total sapogenins, expressed as ruscogenins (mixture of neoruscogenin ($C_{27}H_{40}O_4$ = 428.6) and ruscogenin), calculated with reference to the dried drug. Protect from light.

Profile

The dried rhizome and root of butcher's broom is used in herbal preparations for chronic venous insufficiency and haemorrhoids. It contains steroidal saponins including the sapogenin ruscogenin (see p.2382) which is used for similar purposes. The dose may be expressed in terms of total ruscogenins.

Preparations

Proprietary Preparations (details are given in Part 3)
Chile: Venoserin; ***Ger.:*** Duoform Novo†; Fagorutin Ruscus; Phlebodril mono; Rhenus med†; Venelbin ruscus†; Venobiase mono†.

Multi-ingredient: ***Arg.:*** Celu-Atlas; CVP Flebo; Cyclo 3; Fiblast; Venart; Venidium; ***Austral.:*** Bioglan Cirflo†; Extralife Leg-Care; Proflo†; ***Austria:*** Phlebodril; ***Cz.:*** Cyclo 3 Fort; ***Fr.:*** Avene Antirougeurs; Bicirkan; Cirkan; Climaxol; Creme au Melilot Composee; Cyclo 3; Cyclo 3 Fort; Evarose; Veinobiase; Venyl†; ***Ger.:*** Phlebodril; Phlebodril N; Venobiase†; ***Gr.:*** Cyclo 3 Forte; ***Indon.:*** Venos; ***Ital.:*** Altadrine; Angiorex Complex; Capill Venogel; Dermoprolyn†; Flebolider; ***Mex.:*** Fabroven; ***Pol.:*** Cyclo 3 Fort; ***Port.:*** Creme Laser Hidrante; Cyclo 3; ***Rus.:*** Cyclo 3 (Цикло 3); Cyclo 3 Fort (Цикло-3 Форт); ***Singapore:*** Cyclo 3; Cyclo 3 Fort; ***Spain:*** Fabroven; Ruscimel†; Venofit; ***Switz.:*** Phlebodril; Phlebodril N; Veino-Gouttes-N†; ***Thai.:*** Cyclo 3 Fort.

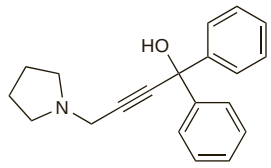
Butinoline Phosphate *(rINNM)*

Butinoline, Phosphate de; Butinolini Phosphas; Fosfato de butinolina. 1,1-Diphenyl-4-pyrrolidino-1′-yl but-2-yn-1-ol phosphate.

Бутинолина Фосфат

$C_{20}H_{21}NO,H_3PO_4$ = 389.4.

CAS — 968-63-8 (butinoline); 54118-66-0 (butinoline phosphate).



(butinoline)

Profile
Butinoline phosphate is used as an antispasmodic in preparations for gastrointestinal disorders.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Austria:*** Spasmo-Solugastril; ***Ger.:*** Spasmo-Nervogastrol†; Spasmo-Solugastril†.

Butterbur

Profile
The leaves and roots of butterbur, *Petasites hybridus* (*P. officinalis*) (Asteraceae), have antispasmodic and anti-inflammatory properties and have been used in herbal preparations for a variety of disorders, including gastrointestinal and respiratory-tract disorders, and migraine.

◊ References.

1. Schapowal A. Randomised controlled trial of butterbur and cetirizine for treating seasonal allergic rhinitis. *BMJ* 2002; **324:** 144–6.
2. Lee DK, *et al.* Butterbur, a herbal remedy, attenuates adenosine monophosphate induced nasal responsiveness in seasonal allergic rhinitis. *Clin Exp Allergy* 2003; **33:** 882–6.
3. Diener HC, *et al.* The first placebo-controlled trial of a special butterbur root extract for the prevention of migraine: reanalysis of efficacy criteria. *Eur Neurol* 2004; **51:** 89–97.
4. Jackson CM, *et al.* The effects of butterbur on the histamine and allergen cutaneous response. *Ann Allergy Asthma Immunol* 2004; **92:** 250–4.
5. Lipton RB, *et al.* Petasites hybridus root (butterbur) is an effective preventive treatment for migraine. *Neurology* 2004; **63:** 2240–4.
6. Pothmann R, Danesch U. Migraine prevention in children and adolescents: results of an open study with a special butterbur root extract. *Headache* 2005; **45:** 196–203.

Preparations

Proprietary Preparations (details are given in Part 3)
Ger.: Petadolex; Petaforce V; ***Switz.:*** DoloMed†; Petadolor†; Pollivita; Tesalin.

Multi-ingredient: ***Switz.:*** Dragees aux figues avec du sene; Dragees pour la detente nerveuse; Relaxane; Valverde Constipation dragees; Valverde Detente dragees; Wala Pulmonium suc contre la toux.

Butyl Nitrite

Nitrito de butilo.

$C_4H_9NO_2$ = 103.1.

NOTE. The following terms have been used as 'street names' (see p.vi) or slang names for various forms of butyl nitrite:
Bolt; Climax; Locker room; Poppers; Rush; Snappers; Video head cleaner.

Profile
Butyl nitrite is not used medicinally but, as with other volatile nitrites, is abused for its vasodilating and related effects following inhalation (see Abuse, under Amyl Nitrite, p.1437).

Cadmium

Cadmio; Kadm; Kadmium.

Cd = 112.411.

CAS — 7440-43-9.

Cadmium Sulfate

Cadmii sulfas; Cadmium, sulfate de; Kadmiumsulfaatti; Kadmiumsulfat; Kadmu siarczan.

$CdSO_4$ = 208.5.

CAS — 10124-36-4.

Pharmacopoeias. *Eur.* (see p.vii) includes a form for homoeopathic preparations.
Ph. Eur. 6.2 (Cadmium Sulphate Hydrate for Homoeopathic Preparations; Cadmii Sulfas Hydricus ad Praeparationes Homoeopathicas). A white or almost white, crystalline powder. Freely soluble in water; practically insoluble in alcohol.

Profile
Cadmium is used in a wide range of manufacturing processes and cadmium poisoning presents a recognised industrial hazard. Inhalation of cadmium fumes during welding procedures may not produce symptoms until 12 to 36 hours have passed and these symptoms include respiratory distress leading to pulmonary oedema; kidney toxicity is also a feature of acute cadmium poisoning. Ingestion of cadmium or its salts has the additional hazard of severe gastrointestinal effects. Cadmium has a long biological half-life and accumulates in body tissues, particularly the liver and kidneys. Chelation therapy is not generally recommended for cadmium poisoning, although sodium calcium edetate has been used after acute ingestion. However, chelators do not increase cadmium elimination in chronic poisoning and use of dimercaprol may increase cadmium toxicity and should be avoided. Chronic exposure to cadmium results in progressive renal impairment and other effects (see below).

Cadmium sulfide has been used topically in some countries for the treatment of skin and scalp conditions. Cadmium sulfate has been included in some preparations for the treatment of eye irritation.

Homoeopathy. Cadmium has been used in homoeopathic medicines under the following names: Cadmium metallicum; Cad. met.

Cadmium sulfate has been used in homoeopathic medicines under the following names: Cadmium sulfuricum; Cadmium sulphuricum; Cad. sul.

Cadmium sulphide has been used in homoeopathic medicines under the following names: Cadmium sulphuratum; Cad. sulph.

Adverse effects. The toxicity of cadmium has been reviewed.[1] Environmental or occupational exposure to cadmium has been associated with renal dysfunction,[2-5] although this may be reversible if exposure is reduced.[6] A reduction in bone density may also occur.[7] Fatalities due to industrial exposure or self-poisoning have also been reported.[8,9] No effect on testicular endocrine function was observed in 77 industrial workers exposed to cadmium.[3]

An increased incidence of cancer of the prostate has been reported in subjects exposed to high levels of cadmium but the evidence is not conclusive.[10] There may be an association between cadmium exposure and lung cancer, although observations on this type of cancer are difficult to interpret because of exposure to other hazards such as smoking.

1. Fielder RJ, Dale EA. Cadmium and its compounds. *Toxicity Review 7*. London: HMSO, 1983.
2. Buchet JP, *et al.* Renal effects of cadmium body burden of the general population. *Lancet* 1990; **336:** 699–702. Correction. *ibid.* 1991; **337:** 1554.
3. Mason HJ. Occupational cadmium exposure and testicular endocrine function. *Hum Exp Toxicol* 1990; **9:** 91–4.
4. Cai S, *et al.* Renal dysfunction from cadmium contamination of irrigation water: dose-response analysis in a Chinese population. *Bull WHO* 1998; **76:** 153–9.
5. Satarug S, *et al.* Safe levels of cadmium intake to prevent renal toxicity in human subjects. *Br J Nutr* 2000; **84:** 791–802.
6. Hotz P, *et al.* Renal effects of low-level environmental cadmium exposure: 5-year follow-up of a subcohort from the Cadmibel study. *Lancet* 1999; **354:** 1508–13.
7. Staessen JA, *et al.* Environmental exposure to cadmium, forearm bone density, and risk of fractures: prospective population study. *Lancet* 1999; **353:** 1140–44.
8. Taylor A, *et al.* Poisoning with cadmium fumes after smelting lead. *BMJ* 1984; **288:** 1270–1.
9. Buckler HM, *et al.* Self poisoning with oral cadmium chloride. *BMJ* 1986; **292:** 1559–60. Correction. *ibid.*; **293:** 236.
10. Bell GM. Carcinogenicity of cadmium and its compounds. *Toxicity Review 24*. London: HMSO, 1991.

Preparations

Proprietary Preparations (details are given in Part 3)
Spain: Biocadmio.

Cajuput Oil

Cajeput Oil; Cajuput Essence; Cayeput, aceite esencial de; Oleum Cajuputi.

Profile
Cajuput oil is a volatile oil obtained by distillation from the fresh leaves and twigs of *Melaleuca cajuputi* (*M. leucadendron*) (Myrtaceae). It contains cineole. Cajuput oil has been applied externally as a stimulant and mild rubefacient in rheumatism. It is also used with other volatile agents in preparations for the relief of respiratory-tract disorders and nasal congestion. It is also used in aromatherapy.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Austral.:*** Goanna Heat Cream; Methyl Salicylate Ointment Compound†; Tiger Balm Red; Tiger Balm White; ***Austria:*** Tiger Balsam Rot; ***Belg.:*** Olbas; ***Canad.:*** Tiger Balm Red; Tiger Balm Ultra; Tiger Balm White; Youngflex Massage 168; ***Cz.:*** Tiger Balm Rot†; ***Fr.:*** Phytolithe†; Vegebom; ***Ger.:*** Liniplant; Nasenbalsam; Olbas; Palatol†; ***Gr.:*** Tiger Balm; ***Hong Kong:*** Vida Salirub; ***India:*** Flexi-muv; ***Indon.:*** Balsam Sakti; Minyak Telon; Minyak Telon Cap Tiga Anak; ***Israel:*** Tiger Balm Red; Tiger Balm White; ***Ital.:*** Otosan Natural Ear Drops†; ***Philipp.:*** Begesic; ***Pol.:*** Argol Rheuma; Olbas; ***S.Afr.:*** Muscle Rub; ***Singapore:*** Begesic; ***Switz.:*** Frigoplasma†; Novital; Olbas; Wala Baume nasal; ***Thai.:*** Dexalin; Hot Ize; Olympic Balm†; ***UK:*** Bells Muscle Rub; Olbas; Olbas for Children; Soothol; Tiger Balm; Vadarex.

Calamus

Acore Vrai; Cálamo aromático; Calamus Rhizome; Kalmus; Sweet Flag Root.

CAS — 8015-79-0 (calamus oil).

Pharmacopoeias. In *Chin.* and *Swiss.*

Profile
Calamus, the dried rhizome of the sweet flag, *Acorus calamus* (Acoraceae), has been used as a bitter and carminative; it is also used as a source of calamus oil, which is employed in perfumery. The FDA in the USA has prohibited marketing calamus as a food or food additive; the oil (Jammu variety) is reported to be a carcinogen.

Homoeopathy. Calamus has been used in homoeopathic medicines under the following names: Calamus aromaticus; Acorus calamus.

Preparations

Proprietary Preparations (details are given in Part 3)
Cz.: Koren Puskvorce.

Multi-ingredient: ***Austria:*** Abdomilon N; ***Cz.:*** Abdomilon†; Dr Theiss Schwedenbitter; Eugastrin†; Original Schwedenbitter; Stomaran; ***Fr.:*** Jouvence de l'Abbe Soury; ***Ger.:*** Abdomilon N; Gastrol S†; Majocarmin mite†; Presselin Blahungs K 4 N†; Stomasal Med†; Stovalid N†; ventri-loges N; ***Israel:*** Rekiv; ***Ital.:*** Frerichs Maldifassi†; ***Pol.:*** Dentosept A; Gastro; Krople Zoladkowe; Seboren; ***Port.:*** Cholagutt†; ***Rus.:*** Original Grosser Bittner Balsam (Оригинальный Большой Бальзам Биттнера); ***Switz.:*** Kernosan Elixir; Tisane pour l'estomac; Urinex; ***UK:*** Pegina.

Calcium Carbimide *(rINN)*

Calcii Carbimidum; Calcium Cyanamide; Carbimida cálcica; Carbimide Calcique; Cyanamide.

Кальция Карбимид

$CCaN_2$ = 80.1.

CAS — 156-62-7 (calcium carbimide); 8013-88-5 (citrated calcium carbimide).

ATC — N07BB02.

ATC Vet — QN07BB02; QV03AA02.

NOTE. The name cyanamide is also used to designate carbimide, which is used in veterinary medicine.

Adverse Effects and Precautions
Calcium carbimide may cause drowsiness, dizziness, fatigue, skin rash, tinnitus, depression, impotence, and urinary frequency. There may be a reversible increase in the white cell count. It should be used with caution in patients with asthma, coronary artery disease, or myocardial disease. Calcium carbimide causes a reaction in patients who have consumed alcohol similar to that seen with disulfiram (see p.2296).

Effects on the heart. Hypotension and tachycardia were reported during the carbimide-alcohol reaction.[1]

1. Peachey JE, *et al.* Cardiovascular changes during the calcium carbimide-ethanol interaction. *Clin Pharmacol Ther* 1981; **29:** 40–6.

Effects on the liver. Reports[1,2] of hepatic lesions in patients receiving calcium carbimide.

1. Vázquez JJ, Cervera S. Cyanamide-induced liver injury in alcoholics. *Lancet* 1980; **i:** 361–2.
2. Moreno A, *et al.* Structural hepatic changes associated with cyanamide treatment: cholangiolar proliferation, fibrosis and cirrhosis. *Liver* 1984; **4:** 15–21.

Uses and Administration
Calcium carbimide has actions and uses similar to those of disulfiram (p.2297). It is an aversive agent used as an adjunct in the treatment of chronic alcoholism (see Alcohol Withdrawal and Abstinence, p.1626). It is given in a dose of up to 60 mg twice daily by mouth. Citrated calcium carbimide has been used similarly.

◊ References.

1. Peachey JE, *et al.* A comparative review of the pharmacological and toxicological properties of disulfiram and calcium carbimide. *J Clin Psychopharmacol* 1981; **1:** 21–6.