Profile
Creatinine is used as a bulking agent for freeze-drying.

Plasma concentrations or clearance of endogenous creatinine are used as an index of renal function.

Creatinolfosfate Sodium *(rINNM)*

Créatinolfosfate de Sodium; Creatinolfosfato sódico; Natrii Creatinolfosfatum. The sodium salt of 1-(2-hydroxyethyl)-1-methylguanidine *O*-phosphate .

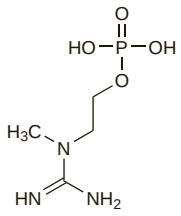
Натрий Креатинолфосфат

$C_4H_{11}N_3NaO_4P$ = 219.1.

CAS — 6903-79-3 (creatinolfosfate).

ATC — C01EB05.

ATC Vet — QC01EB05.



(creatinolfosfate)

Profile
Creatinolfosfate has been used as an adjuvant in the treatment of cardiac disorders.

Crotalaria

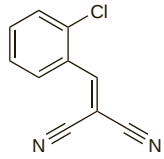
Profile
Crotalaria spp. have been used in herbal teas but liver damage has been reported after their ingestion, possibly due to their content of pyrrolizidine alkaloids.

CS Gas

CS Gazi; CS Spray; Gas CS.

$C_{10}H_5ClN_2$ = 188.6.

CAS — 2698-41-1.



Profile
CS gas (more properly CS spray) is the name commonly given to a particulate dispersion of α-(*o*-chlorobenzylidene) malonitrile, used as a riot-control agent or 'tear gas'. Its toxic effects include irritation of the eyes and nose, with copious lachrymation and rhinorrhoea; blepharospasm; a burning sensation of the mouth and throat; tightness in the chest, with difficulty in breathing; coughing; an increase in salivation; and retching and vomiting. These effects usually disappear within 15 minutes after exposure ends. The effects of pre-existing disease of the respiratory tract may be exacerbated. Erythema and blistering of the skin may occur.

If symptoms persist, the patient should be removed to a well ventilated area. Treatment is symptomatic. Contaminated skin may be washed with soap and water, but only if symptoms persist since exposure to water may initially exacerbate symptoms. If contamination of the eyes has been severe they should be irrigated with physiological saline or water.

◊ References.

1. Hu H, *et al.* Tear gas—harassing agent or toxic chemical weapon? *JAMA* 1989; **262:** 660–3.
2. Yih J-P. CS gas injury to the eye. *BMJ* 1995; **311:** 276.
3. Gray PJ. Treating CS gas injuries to the eye: exposure at close range is particularly dangerous. *BMJ* 1995; **311:** 871.
4. Jones GRN. CS sprays: antidote and decontaminant. *Lancet* 1996; **347:** 968–9.
5. Anderson PJ, *et al.* Acute effects of the potent lacrimator o-chlorobenzylidene malonitrile (CS) tear gas. *Hum Exp Toxicol* 1996; **15:** 461–5.
6. Anonymous. "Safety" of chemical batons. *Lancet* 1998; **352:** 159.
7. Varma S, Holt PJ. Severe cutaneous reaction to CS gas. *Clin Exp Dermatol* 2001; **26:** 248–50.
8. Nathan R, *et al.* Long-term psychiatric morbidity in the aftermath of CS spray trauma. *Med Sci Law* 2003; **43:** 98–104.
9. Blain PG. Tear gases and irritant incapacitants. 1-chloroacetophenone, 2-chlorobenzylidene malononitrile and dibenz[b,f]-1,4-oxazepine. *Toxicol Rev* 2003; **22:** 103–10.

Cubeb

Cubeb Berries; Cubeb Fruit; Cubeba; Java pepper; Tailed Pepper.

Profile
The unripe seeds of cubeb, *Piper cubeba* (Piperaceae), are the source of cubeb oil, which is used in perfumery and aromatherapy.

Preparations
Proprietary Preparations (details are given in Part 3)

Multi-ingredient: *Cz.:* Naturland Grosser Swedenbitter†; ***Rus.:*** Doktor Mom (Доктор Мом); Original Grosser Bittner Balsam (Оригинальный Большой Бальзам Биттнера).

Cucurbita

Abóbora; Calabaza, semillas de; Kürbissamen; Melon Pumpkin Seeds; Pepo; Semence de Courge.

Pharmacopoeias. In *Ger.*

Profile
Cucurbita consists of the seeds of *Cucurbita pepo* (Cucurbitaceae) or related species. It was formerly used for the expulsion of tapeworms (*Taenia*).

It is an ingredient of several herbal preparations used in urinary-tract disorders.

Preparations
Proprietary Preparations (details are given in Part 3)

Chile: Lefkur; ***Cz.:*** Turiplex†; ***Fr.:*** ViTiX; ***Ger.:*** Cysto-Urgenin; Granu Fink Kurbiskern; Nomon mono; Prosta Fink forte; Urgenin Cucurbitae oleum; Uvirgan mono; Vesiherb; ***Indon.:*** Inkurin; ***Pol.:*** Peponen; Peposterol; Prostogal†; ***Rus.:*** Peponen (Пепонен); Tycveolum (Тыквеол).

Multi-ingredient: ***Arg.:*** Cellskinlab Phyto Spot; Clean-AC; Cleanance; ***Austral.:*** Lifechange Mens Complex with Saw Palmetto†; ***Canad.:*** Prostate Ease; Prostease; ProstGard†; ***Chile:*** Clean-AC; Cleanance; ***Fr.:*** Cleanance; Cleanance K; Phytolongbronze; ***Ger.:*** Granu Fink Kurbiskern N; Granu Fink Prosta; Prostamed; Uvirgan N†; ***Hong Kong:*** Prostease; Sawmetto Vivo-Livo†; ***Indon.:*** Soprost; ***Philipp.:*** Castoria; ***Pol.:*** Prostamer†; ***Port.:*** Bioclin Sebo Care†; Prostamed†; ***Rus.:*** Bioprost (Биопрост); ***Switz.:*** Granu Fink Prosta; Prosta-Caps Chassot N; ***UK:*** Ymea.

Cusparia

Angostura; Angostura Bark; Carony Bark; Cusparia Bark.

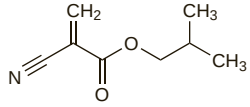
NOTE. 'Angostura Bitters' (*Dr. J.G.B. Siegert & Sons Ltd*) contains gentian and various aromatic ingredients but no cusparia; it is named after the town in which it was first made.

Profile
Cusparia, the bark of *Galipea officinalis* (Rutaceae), has been used as a bitter.

Cyanoacrylate Adhesives

Cianoacrilato, adhesivos de.

CAS — 1069-55-2 (bucrilate); 6606-65-1 (enbucrilate); 137-05-3 (mecrilate); 6701-17-3 (ocrilate);.



(bucrilate)

Profile
A number of cyanoacrylate compounds have been used as surgical tissue adhesives. They include:

- bucrilate (bucrylate; isobutyl 2-cyanoacrylate, $C_8H_{11}NO_2$ = 153.2)
- enbucrilate (butyl 2-cyanoacrylate, $C_8H_{11}NO_2$ = 153.2),
- mecrilate (mecrylate; methyl 2-cyanoacrylate, $C_5H_5NO_2$ = 111.1)
- ocrilate (ocrylate; octil 2-cyanoacrylate, $C_{12}H_{19}NO_2$ = 209.3).

Some cyanoacrylates are used for household purposes and as nail fixatives and others have been investigated as tubal occlusive agents for female sterilisation, for sclerotherapy in bleeding gastric varices (see under Monoethanolamine, p.2346), and for embolisation of intracranial vascular lesions. Cyanoacrylate adhesives have also been used to plug corneal perforations until donor tissue is available.

Adverse effects. Reports of inadvertent application of cyanoacrylate adhesives to the eyes,[1,2] mouth,[3] and ears.[4,5] Pulmonary embolisation of ocrilate has been reported[6] when it was used to obliterate gastric varices in a patient.

1. Lyons C, *et al.* Superglue inadvertently used as eyedrops. *BMJ* 1990; **300:** 328.
2. DeRespinis PA. Cyanoacrylate nail glue mistaken for eye drops. *JAMA* 1990; **263:** 2301.
3. Cousin GCS. Accidental application of cyanoacrylate to the mouth. *Br Dent J* 1990; **169:** 293–4.
4. O'Donnell JJ, *et al.* Cyanoacrylate adhesive mistaken for ear drops. *J Accid Emerg Med* 1997; **14:** 199.
5. Persaud R. A novel approach to the removal of superglue from the ear. *J Laryngol Otol* 2001; **115:** 901–2.
6. Rickman OB, *et al.* Pulmonary embolization of 2-octyl cyanoacrylate after endoscopic injection therapy for gastric variceal bleeding. *Mayo Clin Proc* 2004; **79:** 1455–8.

Treatment of adverse effects. In the event of accidental adhesion of the skin the bonded surfaces may be separated after application of acetone, prolonged soaking in warm (not hot) soapy water, and/or mixtures of alcohol and water. Application of liquid paraffin may help in removal from the skin. If necessary, the surfaces may be peeled or rolled apart with the aid of a spatula; attempts should not be made to pull the surfaces directly apart. Acetone and alcohol should not be used near or in the eyes. Solvents such as nitromethane, toluene, or xylene may be used to aid skin detachment from solid objects. Solvents should be used with care and should not be introduced into the oropharynx. Eyelids stuck together or bonded to the eyeball should be washed thoroughly with saline or water at room temperature for 15 minutes and a gauze patch applied; the eye will open without further action in 1 to 4 days. Manipulative attempts to open the eyes should not be made. Although cyanoacrylate introduced into the eyes may cause double vision and lachrymation there is usually no residual damage. If lips are accidentally stuck together plenty of warm water should be applied and maximum wetting from saliva inside the mouth encouraged. Lips should be peeled or rolled apart and not pulled. Adhesive introduced into the mouth solidifies and adheres, but saliva will lift the adhesive in ⁄ to 2 days. Care should be taken to avoid choking.

Heat is evolved on solidification of cyanoacrylate and in rare cases may cause burns.

Uses. References to the use of cyanoacrylate adhesives,[1-10] including bucrilate,[1,2] enbucrilate,[3,4] and ocrilate.[5-9]

1. Kind R, *et al.* Bucrylate treatment of bleeding gastric varices: 12 years' experience. *Endoscopy* 2000; **32:** 512–9.
2. Shepler TR, Seiff SR. Use of isobutyl cyanoacrylate tissue adhesive to stabilize external eyelid weights in temporary treatment of facial palsies. *Ophthal Plast Reconstr Surg* 2001; **17:** 169–73.
3. Schonauer F, *et al.* Use of Indermil tissue adhesive for closure of superficial skin lacerations in children. *Minerva Chir* 2001; **56:** 427–9.
4. Sinha S, *et al.* A single blind, prospective, randomized trial comparing n-butyl 2-cyanoacrylate tissue adhesive (Indermil) and sutures for skin closure in hand surgery. *J Hand Surg (Br)* 2001; **26:** 264–5.
5. Kutcher MJ, *et al.* Evaluation of a bioadhesive device for the management of aphthous ulcers. *J Am Dent Assoc* 2001; **132:** 368–76.
6. Puri P. Tissue glue aided lid repositioning in temporary management of involutional entropion. *Eur J Ophthalmol* 2001; **11:** 211–4.
7. Bernard L, *et al.* A prospective comparison of octyl cyanoacrylate tissue adhesive (dermabond) and suture for the closure of excisional wounds in children and adolescents. *Arch Dermatol* 2001; **137:** 1177–80.
8. Mattick A, *et al.* A randomised, controlled trial comparing a tissue adhesive (2-octylcyanoacrylate) with adhesive strips (Steristrips) for paediatric laceration repair. *Emerg Med J* 2002; **19:** 405–7.
9. Magee WP, *et al.* Use of octyl-2-cyanoacrylate in cleft lip repair. *Ann Plast Surg* 2003; **50:** 1–5.
10. Singer AJ, *et al.* The cyanoacrylate topical skin adhesives. *Am J Emerg Med* 2008; **26:** 490–6.

Preparations
Proprietary Preparations (details are given in Part 3)

Arg.: Dermabond; ***Fr.:*** Dermabond; ***UK:*** Dermabond; Histoacryl; Indermil; LiquiBand; SuperSkin.

Multi-ingredient: ***Ger.:*** Epiglu; ***Irl.:*** Epiglu; ***UK:*** Epiglu.

Cyclobutyrol Sodium *(rINNM)*

Ciclobutirol sódico; Cyclobutyrol Sodique; Natrii Cyclobutyrolum. Sodium 2-(1-hydroxycyclohexyl)butyrate.

Натрий Циклобутирол

$C_{10}H_{17}NaO_3$ = 208.2.

CAS — 512-16-3 (cyclobutyrol); 1130-23-0 (cyclobutyrol sodium).

ATC — A05AX03.

ATC Vet — QA05AX03.

Profile
Cyclobutyrol sodium is a choleretic that has been given by mouth. Cyclobutyrol betaine, cyclobutyrol calcium, and cyclobutyrol nicotinamide have been used similarly.

Preparations
Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Austria:*** Trommgallol; ***Spain:*** Menabil Complex†; Salcemetic†; Sugarbil.

Cyclodextrins

Ciclodextrinas.

Alfadex *(BAN, rINN)*

Alfadeksas; Alfadeksi; Alfadexum; Alpha Cyclodextrin; Alphacyclodextrin; α-Cyclodextrin; Cyclohexaamylose; Cyclomaltohexose. Cyclomaltohexaose.

Альфадекс

$C_{36}H_{60}O_{30}$ = 972.8.
CAS — 10016-20-3.

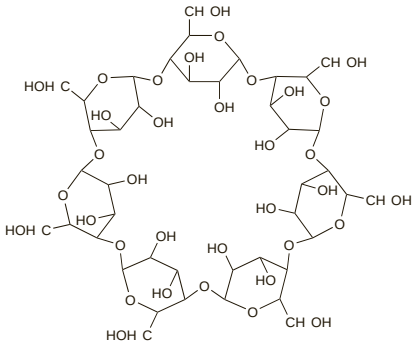
Pharmacopoeias. In *Eur.* (see p.vii). Also in *USNF.*
Ph. Eur. 6.2 (Alfadex). A white or almost white, amorphous or crystalline powder. Freely soluble in water and in propylene glycol; practically insoluble in dehydrated alcohol and in dichloromethane. Store in airtight containers.
USNF 26 (Alfadex). A white or almost white, amorphous or crystalline, powder. Freely soluble in water and in propylene glycol; practically insoluble in dehydrated alcohol and in dichloromethane. Store in airtight containers.

Betadex *(BAN, USAN, rINN)*

Beetadeksi; Betadeksas; Bétadex; Betadexum; β-Cyclodextrin; E459. Cyclo-α-(1→4)-D-heptaglucopyranoside.

Бетадекс

$C_{42}H_{70}O_{35}$ = 1135.
CAS — 7585-39-9.



Pharmacopoeias. In *Chin.* and *Eur.* (see p.vii). Also in *USNF.*
Ph. Eur. 6.2 (Betadex). A white or almost white, amorphous or crystalline powder. Sparingly soluble in water; practically insoluble in alcohol and in dichloromethane; freely soluble in propylene glycol. Store in airtight containers.
USNF 26 (Betadex). A nonreducing cyclic compound composed of seven alpha-(1-4) linked D-glucopyranosyl units. It is a white, practically odourless, fine crystalline powder. Soluble 1 in 54 of water. Store in airtight containers.

Hydroxypropylbetadex

Hidroksipropilbetadeksas; Hydoxipropylbetadex; Hydroksipropyylibetadeksi; Hydroxypropylbétadex; Hydroxypropylbetadexum; 2-Hydroxypropyl-β-cyclodextrin.

Pharmacopoeias. In *Eur.* (see p.vii). Also in *USNF.*
Ph. Eur. 6.2 (Hydroxypropylbetadex). A white or almost white, amorphous or crystalline powder. Freely soluble in water and in propylene glycol.
USNF 26 (Hydroxypropyl Betadex). A white or almost white, amorphous or crystalline powder. Freely soluble in water and in propylene glycol.

Profile
Cyclodextrins, such as alfadex and betadex, are produced by the enzymatic degradation of starch and are used as carrier molecules for drug delivery systems. Hydroxypropylbetadex, a derivative of betadex, is also used.

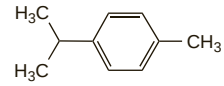
◊ References.

1. Ridgway K. Drug release rates: cyclodextrin complexes. *Pharm J* 1990; **245:** 344–5.
2. Szejtli J. Cyclodextrins: properties and applications. *Drug Invest* 1990; **2** (suppl 4): 11–21.
3. El Shaboury MH. Physical properties and dissolution profiles of tablets directly compressed with β-cyclodextrin. *Int J Pharmaceutics* 1990; **63:** 95–100.
4. Stella VJ, Rajewski RA. Cyclodextrins: their future in drug formulation and delivery. *Pharm Res* 1997; **14:** 556–67.
5. Loftsson T, Olafsson JH. Cyclodextrins: new drug delivery systems in dermatology. *Int J Dermatol* 1998; **37:** 241–6.
6. Redenti E, *et al.* Drug/cyclodextrin/hydroxy acid multicomponent systems: properties and pharmaceutical applications. *J Pharm Sci* 2000; **89:** 1–8.
7. Loftsson T, Masson M. Cyclodextrins in topical drug formulations: theory and practice. *Int J Pharm* 2001; **225:** 15–30.
8. Loftsson T, Stefansson E. Cyclodextrins in eye drop formulations: enhanced topical delivery of corticosteroids to the eye. *Acta Ophthalmol Scand* 2002; **80:** 144–50.
9. Dass CR. Cyclodextrins and oligonucleotide delivery to solid tumours. *J Drug Target* 2004; **12:** 1–9.
10. Kaur IP, *et al.* Role of cyclodextrins in ophthalmics. *Curr Drug Deliv* 2004; **1:** 351–60.
11. Challa R, *et al.* Cyclodextrins in drug delivery: an updated review. *AAPS PharmSciTech* 2005; **6:** E329–E357.

Cymene

Cimeno; *p*-Cymene; *p*-Cymol; p-Cymen. 4-Isopropyl-1-methylbenzene; 4-Isopropyltoluene.

$C_{10}H_{14}$ = 134.2.
CAS — 25155-15-1; 99-87-6 (p-cymene).



(p-cymene)

Profile
Cymene is used in perfumery. It has also been used as a topical local analgesic for the relief of pain in rheumatic conditions.

Cynara

Alcachofa; Alcachôfra; Artichaut; Artichaut, feuille d'; Artichoke Leaf; Artičokový list; Cynarae folium; Liść karczocha.

Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Artichoke Leaf). The whole or cut, dried leaf of *Cynara scolymus.* It contains a minimum 0.8% of chlorogenic acid ($C_{16}H_{18}O_9$ = 354.3), calculated with reference to the dried drug. Protect from light.

Profile
Cynara, the leaf of the globe artichoke, *Cynara scolymus* (Compositae), is reputed to have diuretic and choleretic properties. It may also have some hypolipidaemic activity.

◊ References.

1. Joy JF, Haber SL. Clinical uses of artichoke leaf extract. *Am J Health-Syst Pharm* 2007; **64:** 1904–9.

Preparations
Proprietary Preparations (details are given in Part 3)
Arg.: Alcachofa Plus; Chofitol; Cynarex; ***Austria:*** Cynarix; Hepar-POS; ***Belg.:*** Cynarol; Hebucol; ***Braz.:*** Alcachofrax; Chophytol; ***Fr.:*** Chophytol; Gallexier†; Hepanephrol; ***Ger.:*** aar gamma N; Ardeycholan; Carminagal N†; Cefacynar; Cholagogum; Cyna Bilisan†; Cynacur; Cynalip duo†; Cynarix N†; Hepagallin N; Hepar SL; Hepar-POS; Heparstad†; Hewechol Artischockendragees; Lipei; Losapan†; Natu-Hepa; Naturreiner†; ratio-Hepar†; Valverde Artischocke†; ***Pol.:*** Cynacholin; Cynarex; Hepacynar; Liproxal; ***Port.:*** Hepanephrol†; ***Rus.:*** Chophytol (Хофитол); ***Switz.:*** Chophytol; Hepa-S; Natu-Hepa.

Multi-ingredient: ***Arg.:*** Arceligasol; Bagohepat; Bilidren; Biliosan Compuesto†; Boldina; Digenat; Dioxicolagol; HDG; Hepacur; Hepatalgina; Hepatodirectol; Herbaccion Dig Fresh†; Herbaccion Digestivo†; Lorbihepatic; Metiogen; Palatrobil; ***Austral.:*** Extralife Liva-Care; Lifesystem Herbal Formula 7 Liver Tonic†; Liver Tonic Herbal Formula 6†; Livstim†; Livton Complex†; ***Austria:*** Cynarix comp; ***Braz.:*** Alcafelol†; Alcaflor†; Chofranina; Colachofra; Composto Emagrecedor†; Digestron†; Emagrevit†; Figatil; Hecrosine B12†; Hepatoregius†; Jurubileno†; Lisotox; Olocynan†; Solvobil; ***Canad.:*** Milk Thistle; ***Cz.:*** Cynarosan†; ***Fr.:*** Actibil†; Benetransit; Canol; Elixir Spark; Hepaclem; Hepax; Vegelax†; ***Ger.:*** Bilicura Forte†; Carmol Magen-Galle-Darm; Cynarzym N†; Gallexier; Galloselect M†; Pascobilin novo†; ***Hong Kong:*** Hepatofalk; ***Indon.:*** Biocholes; ***Ital.:*** Cinarepa; Colax; Digelax†; Epagest†; Vadolax†; ***Malaysia:*** Dandelion Complex†; ***Mex.:*** Bagohepat; Chofabol; Hepedren; Ifuchol; ***Pol.:*** Cardiobonisol; Rapacholin AC; Rapacholin C; Sylicynar; ***Rus.:*** Herbion Drops for the Gallbladder (Гербион Капли Желчегонные); ***Spain:*** Cynaro Bilina; Lipograsil; Menabil Complex†; Nico Hepatocyn; ***Switz.:*** Bilifuge; Boldocynara; Demonatur Gouttes pour le foie et la bile; Heparfelien; Phytomed Hepato†; Stago N†; Strath Gouttes pour le foie et la bile; Tisane hepatique et biliaire; ***UK:*** Bio-Strath Artichoke Formula; ***Venez.:*** Cynascool.

Cynarine *(rINN)*

Cinarina; Cynarin; Cynarinum; Cynaryna; 1,5-Dicaffeoylquinic Acid. 1-Carboxy-4,5-dihydroxy-1,3-cyclohexylene bis(3,4-dihydroxycinnamate).

Цинарин

$C_{25}H_{24}O_{12}$ = 516.5.
CAS — 1182-34-9; 1884-24-8.

Profile
Cynarine is an active ingredient of cynara (above). It has been used as a choleretic.

Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** HDG; ***Austria:*** Trommgallol.

Cypress

Italian Cypress; Mediterranean Cypress.

Profile
Italian or Mediterranean cypress (*Cupressus sempervirens*, Cupressaceae) is included in preparations for peripheral vascular disorders.

It is the source of cypress oil. Cypress oil is used in preparations for the relief of cough and cold symptoms and in aromatherapy.

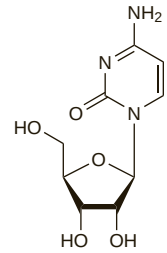
Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Fr.:*** Arterase; Circulatonic; Mediflor Tisane Circulation du Sang No 12; Veinostase; ***Ital.:*** Colostrum; Venalta; ***Port.:*** Solubeol†; ***Spain:*** Natusor Circusil†; Proctosor†; Ruscimel†; Trophires†; Vapores Pyt; ***Switz.:*** Eucapinol; Makaphyt Baume†; Novital.

Cytidine

Cytosine Riboside. 4-Amino-1-β-D-ribofuranosyl-2-(1*H*)-pyrimidinone.

Цитидин

$C_9H_{13}N_3O_5$ = 243.2.
CAS — 65-46-3.



Profile
Cytidine is an endogenous cytosine nucleoside involved in many biological processes; it is one of the components of nucleic acids (p.2355). Cytidine is used in preparations containing other nucleosides in the treatment of corneal damage. It has also been used in preparations for liver disorders, anaemias, and as a tonic. Disodium cytidine phosphate is included in preparations for neuralgia, neuritis, and myopathies and has also been used for peripheral and cerebral vascular disorders; the triphosphate has also been used.

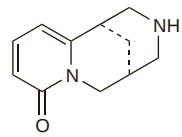
Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Nucleo CMP†; ***Belg.:*** Vitacic; ***Braz.:*** Nucleo CMP; ***Chile:*** Citoneuron; ***Cz.:*** Laevadosin†; ***Ger.:*** Keltican N; ***Hung.:*** Vitacic†; ***Ital.:*** Centrum; ***Mex.:*** Nucleo CMP; ***Mon.:*** Vitacic; ***Rus.:*** Vitacic (Витасик)†; ***Spain:*** Cefabol; Nucleo CMP.

Cytisine

Baptitoxine; Laburnine; Sophorine; Ulexine. 1,2,3,4,5,6-Hexahydro-1,5-methano-8*H*-pyrido[1,2-*a*][1,5]diazocin-8-one.

Цитизин

$C_{11}H_{14}N_2O$ = 190.2.
CAS — 485-35-8.



Profile
Cytisine is a highly toxic alkaloid found in laburnum (p.2329) and some other leguminous plants. It resembles nicotine (p.2352) in its actions and has been given orally as an aid to smoking cessation (p.2354). The dose is 1.5 mg 6 times daily for 3 days which is then gradually reduced over the next 3 weeks to 1.5 to 3 mg daily for the final 5 days of treatment. Treatment of adverse effects of cytisine is as described for Nicotine, p.2352.

A 0.15% solution of cytisine known as Cytitone has been used intravenously or intramuscularly in some countries as a respiratory stimulant.

◊ References.

1. Etter J-F. Cytisine for smoking cessation: a literature review and a meta-analysis. *Arch Intern Med* 2006; **166:** 1553–9.
2. Tutka P, Zatoński W. Cytisine for the treatment of nicotine addiction: from a molecule to therapeutic efficacy. *Pharmacol Rep* 2006; **58:** 777–98.