Uses and Administration
Phosgene is used in the chemical industry. It has been used as a war gas.

◊ References.

1. Borak J, Diller WF. Phosgene exposure: mechanisms of injury and treatment strategies. *J Occup Environ Med* 2001; **43:** 110–9.

Phosphatidyl Choline
Fosfatidilcolina; Phosphatidylcholine.

Profile
Phosphatidyl choline is a phospholipid and a constituent of lecithin (p.2332). Phosphatidyl choline is an ingredient of preparations that have been promoted for liver disorders, peripheral vascular disorders, hyperlipidaemias, and fat emboli. Some injection preparations of phosphatidyl choline have been promoted for use in cosmetic surgery to remove subcutaneous fat deposits, but this use is not licensed in the UK.

Ulcerative colitis. Phosphatidyl choline is a component of mucus and plays a key role in mucosal defence. Since a disturbed mucosal barrier is believed to be a factor in the pathogenesis of ulcerative colitis, exogenous phosphatidyl choline has been investigated to improve the protective effects of colonic mucus. Controlled-release oral phosphatidyl choline was beneficial compared with placebo in patients with ulcerative colitis in 2 small short-term studies.[1,2]

1. Stremmel W, *et al.* Retarded release phosphatidylcholine benefits patients with chronic active ulcerative colitis. *Gut* 2005; **54:** 966–71.
2. Stremmel W, *et al.* Phosphatidylcholine for steroid-refractory chronic ulcerative colitis: a randomized trial. *Ann Intern Med* 2007; **147:** 603–10.

Preparations
Proprietary Preparations (details are given in Part 3)
Ital.: Essentiale†; Lipostabil†; ***Singapore:*** Hepakur; ***USA:*** PhosChol.

Multi-ingredient: ***Arg.:*** Ikx Gel Reductor; ***Austral.:*** Tyrosengt†; ***Ger.:*** Repithel; ***India:*** Livage; ***Indon.:*** Liposerin; ***Ital.:*** Essaven; Zeroac; ***Singapore:*** Memoloba†.

Phosphatidyl Serine
Fosfatidilserina; Phosphatidylserine.

Profile
Phosphatidyl serine is a phospholipid that has been tried in the treatment of organic psychiatric syndromes and investigated as a cognition adjuvant. Phosphatidyl serine is a constituent of lecithin (p.2332).

Phosphoserine, which lacks the lipid and glycerol groups of phosphatidyl serine, has been used similarly; both (+)-L-phosphoserine (dexfosfoserine) and the racemic form (DL-phosphoserine) have been used. Phosphoserine has sometimes been used as a synonym for phosphatidyl serine.

◊ References.

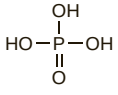
1. Pepping J. Phosphatidylserine. *Am J Health-Syst Pharm* 1999; **56:** 2038, 2043–4.

Preparations
Proprietary Preparations (details are given in Part 3)
Braz.: Bros; ***UK:*** Cognito.

Multi-ingredient: ***Ger.:*** Vitasprint B †; ***India:*** Livage; ***Indon.:*** Liposerin; ***Ital.:*** Acutil Fosforo; Briogen†; Fosfo Plus; Glutamin Fosforo; Memovisus†; Memovit B12; NeoBros; NeoBros 10; NeoBros C; Vitasprint Complex†; Vitasprint†; ***Spain:*** Agudil; Nucleserina; ***Switz.:*** Vitasprint Complex.

Phosphoric Acid
Acide phosphorique; Acido Fosfórico; Acidum phosphoricum; Concentrated Phosphoric Acid; E338; Fosfato rūgštis; Fosfórico, ácido; Fosforihappo; Fosforsyra; Foszforsav; Kwas fosforowy; Kyselina fosforečná; Orthophosphoric Acid; Phosph. Acid; Phosphorsäure.

H_3PO_4 = 98.00.
CAS — 7664-38-2.



Pharmacopoeias. *Eur.* (see p.vii) includes various concentrations. Also in *USNF.*

Ph. Eur. 6.2 (Phosphoric Acid, Concentrated; Phosphoric Acid BP 2008). It contains 84 to 90% w/w of H_3PO_4. A clear, colourless, corrosive, syrupy liquid. When stored at a low temperature it may solidify, forming a mass of colourless crystals which do not melt until the temperature reaches 28°. Miscible with water and with alcohol. Store in glass containers.

Ph. Eur. 6.2 (Phosphoric Acid, Dilute). It contains 9.5 to 10.5% w/w H_3PO_4 and is prepared by mixing phosphoric acid 115 g with water 885 g.

USNF 26 (Phosphoric Acid). It contains 85 to 88% w/w of H_3PO_4. A colourless, odourless liquid of syrupy consistency. Miscible with water and with alcohol. Store in airtight containers.

USNF 26 (Diluted Phosphoric Acid). It contains 9.5 to 10.5% w/v H_3PO_4 and may be prepared by mixing phosphoric acid 69 mL with purified water to 1000 mL. A clear, colourless, odourless liquid. Store in airtight containers.

Adverse Effects and Treatment
As for Hydrochloric Acid, p.2322.

Toxicity from mixing cleaning agents. For reference to the adverse effects of mixing phosphoric acid-based and hypochlorite-based cleaning agents see Sodium Hypochlorite, p.1661.

Uses and Administration
Phosphoric acid has industrial uses. Dilute phosphoric acid has been used well diluted in preparations intended for the management of nausea and vomiting (p.1700); it has also been included in preparations for vaginal infections. Phosphoric acid is used in dentistry to etch tooth enamel.

Homoeopathy. Phosphoric acid has been used in homoeopathic medicines under the following names: Acidum phosphoricum; Phosphoricum acidum; Ac. phos.

Preparations
USP 31: Sodium Fluoride and Phosphoric Acid Gel.

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

Multi-ingredient: ***Arg.:*** Plus & White†; ***Austral.:*** Emetrol†; ***Braz.:*** Paratonico; ***Chile:*** Homeofortin III†; ***Fr.:*** Actiphos†; Biotone†; Ionyl; Marinol; Phosphoneuros; ***Gr.:*** Enter-Out; Kathargon; Mineralin; Phospho-Laxat; Phosphoclean; Trifalac; ***Israel:*** Peptical; ***S.Afr.:*** Emetrol; Emex; ***Spain:*** Oximen; ***Thai.:*** Quinradon-N; ***USA:*** Emetrol; Formula EM; Nausetrol.

Phosphorus
Fósforo; Fósforo amarillo; Fósforo blanco; Phosphor; Phosphore; White Phosphorus; Yellow Phosphorus.

P = 30.973762.
CAS — 7723-14-0.

Handling. Phosphorus has been used for the illicit preparation of explosives or fireworks; care is required with its supply.

Stability and storage. Phosphorus is unstable in air and should be stored under water.

Adverse Effects
Acute poisoning by yellow (white) phosphorus, a general protoplasmic poison, occurs in three distinct stages. The first stage represents local gastrointestinal irritation with intense thirst, pain, nausea, vomiting, and diarrhoea. The vomitus and stool may smell of garlic and are luminescent. Shock, delirium, convulsions, coma, and death may occur. In patients who survive, a second, asymptomatic stage may be present lasting for up to several days or even weeks. The third stage represents systemic toxicity characterised by hepatic and renal damage, cardiovascular collapse, and CNS involvement including confusion, convulsions, and coma. Death may occur during either the first or third stages.

The fatal dose is about 1 mg/kg.

Symptoms of chronic poisoning are associated with defective tissue repair, including necrosis of the mandible ('phossy jaw').

Externally, phosphorus causes severe burns to the skin. Phosphorus is absorbed after skin contamination and systemic symptoms may occur.

Treatment of Adverse Effects
Gastric lavage may be considered after ingestion of elemental yellow (white) phosphorus, although the risks versus potential benefits must be considered in order to prevent spontaneous combustion. Activated charcoal may be used, although there is no clear evidence of benefit. Induction of emesis is contra-indicated. Potassium permanganate solution 1 in 5000 has been instilled into the stomach in an attempt to convert elemental phosphorus to an oxide, but there is no sound clinical reason to recommend this.

Further treatment is symptomatic and supportive and may include fluid and electrolyte replacement, and management of convulsions and renal and hepatic dysfunctions.

Contaminated areas on skin should be immersed in water or irrigated with copious amounts of warm water. Solutions containing copper sulfate have also been suggested for dermal irrigation to convert elemental phosphorus to copper phosphate, although concerns have been raised due to its potential to cause lethal haemolysis through inhibition of G6PD. Eyes contaminated with phosphorus should be irrigated with copious amounts of tepid water for at least 15 minutes. Exposed areas should be covered with wet dressings or compresses to prevent spontaneous combustion. It is essential that all particles of unoxidised phosphorus are removed from the skin. Lipid or oil-based topical preparations may increase the absorption of phosphorus through the skin and should not be used.

Uses and Administration
Elemental phosphorus is no longer used in medicine. Inorganic phosphates are given in deficiency states and bone diseases (see Uses and Administration of Sodium Phosphate, p.1683). Phosphorus has been used in the manufacture of rat and cockroach poisons.

Homoeopathy. Phosphorus has been used in homoeopathic medicines.

Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Sigmaflex; ***Singapore:*** Lacto Calcium†.

Physalis
Alkékenge; Alkekengi; Alquequenje; Amour en cage; Bladder Cherry; Blasenkirsche; Chinese Lantern; Coqueret; Ground Cherry; Judenkirsche; Lampionblume; Strawberry Tomato; Winter Cherry.

Pharmacopoeias. In *Chin.*

Profile
The berries of *Physalis alkekengi* (Solanaceae) are reputed to have diuretic properties.

Cape gooseberry is the edible fruit of *P. peruviana.*

Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Indon.:*** Hyric.

Picibanil
OK-432.

Пицибанил
CAS — 39325-01-4.

Profile
Picibanil is a lyophilised preparation of a low-virulence strain of *Streptococcus pyogenes* inactivated by heating with benzylpenicillin; it is reported to act as an immunomodulator. It has been given by injection in the treatment of malignant neoplasms.

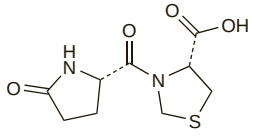
◊ References.

1. Luzzatto C, *et al.* Sclerosing treatment of lymphangiomas with OK-432. *Arch Dis Child* 2000; **82:** 316–18.
2. Sakamoto J, *et al.* Meta-analysis of adjuvant immunochemotherapy using OK-432 in patients with resected non-small-cell lung cancer. *J Immunother* 2001; **24:** 250–6.
3. Laranne J, *et al.* OK-432 (Picibanil) therapy for lymphangiomas in children. *Eur Arch Otorhinolaryngol* 2002; **259:** 274–8.
4. Sakamoto J, *et al.* Efficacy of adjuvant immunochemotherapy with OK-432 for patients with curatively resected gastric cancer: a meta-analysis of centrally randomized controlled clinical trials. *J Immunother* 2002; **25:** 405–12.
5. Giguere CM, *et al.* Treatment of lymphangiomas with OK-432 (Picibanil) sclerotherapy: a prospective multi-institutional trial. *Arch Otolaryngol Head Neck Surg* 2002; **128:** 1137–44.
6. Watanabe M, *et al.* Randomized controlled trial of the efficacy of adjuvant immunochemotherapy and adjuvant chemotherapy for colorectal cancer, using different combinations of the intracutaneous streptococcal preparation OK-432 and the oral pyrimidines 1-hexylcarbamoyl-5-fluorouracil and uracil/tegafur. *Int J Clin Oncol* 2004; **9:** 98–106.
7. Sato Y, *et al.* A randomized controlled study of immunochemotherapy with OK-432 after curative surgery for gastric cancer. *J Immunother* 2004; 394–7.
8. Taniguchi T, *et al.* Clinical results of OK-432 injection therapy for ganglions. *J Dermatol* 2005; **32:** 262–5.
9. Kasahara K, *et al.* Randomized phase II trial of OK-432 in patients with malignant pleural effusion due to non-small cell lung cancer. *Anticancer Res* 2006; **26:** 1495–9.
10. Knipping S, *et al.* Sclerotherapy of cervical cysts with Picibanil (OK-432). *Eur Arch Otorhinolaryngol* 2007; **264:** 423–7.
11. Nygaard U, *et al.* New treatment of early fetal chylothorax. *Obstet Gynecol* 2007; **109:** 1088–92.

Preparations
Proprietary Preparations (details are given in Part 3)
Jpn: Picibanil.

Pidotimod *(rINN)*
Pidotimodum. (*R*)-3-[(*S*)-5-Oxoprolyl]-4-thiazolidinecarboxylic acid.

Пидотимод
$C_9H_{12}N_2O_4S$ = 244.3.
CAS — 121808-62-6.
ATC — L03AX05.
ATC Vet — QL03AX05.



Profile
Pidotimod is an immunostimulant used in patients with cell-mediated immunodepression during respiratory- and urinary-tract infections. It is given orally in usual doses of 800 mg twice daily.

Preparations

Proprietary Preparations (details are given in Part 3)
Gr.: Polimod; ***Ital.:*** Onaka; Pigitil; Polimod; ***Mex.:*** Adimod.

Pilewort

Celidonia menor; Ficaire; Ficaria Ranunculoides; Ficaria Verna; Lesser Celandine.

Pharmacopoeias. In *Fr.*

Profile
Pilewort, the aerial parts of *Ranunculus ficaria* (Ranunculaceae), has astringent and demulcent properties and is used topically for the treatment of haemorrhoids.

Preparations

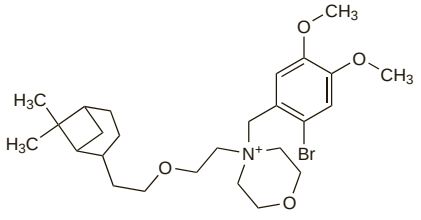
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Confortel†; ***Cz.:*** Avenoc; ***Fr.:*** Apaisance; Hemorrogel; ***UK:*** Piletabs.

Pinaverium Bromide *(rINN)*

Bromuro de pinaverio; Pinaverii Bromidum; Pinavérium, Bromure de; Pinaveriumbromid; Pinaveriumbromidi; Pinaveryum Bromür. 4-(6-Bromoveratryl)-4-{2-[2-(6,6-dimethyl-2-norpinyl)ethoxy]ethyl}morpholinium bromide.

Пинаверия Бромид

$C_{26}H_{41}Br_2NO_4$ = 591.4.
CAS — 59995-65-2 (pinaverium); 53251-94-8 (pinaverium bromide).
ATC — A03AX04.
ATC Vet — QA03AX04.



(pinaverium)

Profile
Pinaverium bromide is a calcium-channel blocker with some antimuscarinic-like effects. It is used for the relief of gastrointestinal spasm in usual doses of 50 mg orally three times daily at mealtimes.

Effects on the gastrointestinal tract. Two patients had heartburn and dysphagia after taking pinaverium bromide orally between meals; endoscopy revealed acute oesophageal ulceration, which healed on stopping treatment.[1] The manufacturer's recommendation to take pinaverium bromide during meals was emphasised.

1. André J-M, *et al*. Ulcères oesophagiens après prise de bromure de pinaverium. *Acta Endosc* 1980; **10:** 289–91.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Dicetel; ***Austria:*** Dicetel; ***Belg.:*** Dicetel; ***Braz.:*** Dicetel; ***Canad.:*** Dicetel; ***Chile:*** Eldicet; Laudil†; ***Cz.:*** Dicetel; ***Fr.:*** Dicetel; ***Gr.:*** Dicetel; ***Hung.:*** Dicetel; ***India:*** Eldicet; ***Ital.:*** Dicetel; ***Mex.:*** Dicetel; Zerpyco; ***Philipp.:*** Eldicet; ***Port.:*** Dicetel; ***Rus.:*** Dicetel (Дицетел); ***Spain:*** Eldicet; ***Switz.:*** Dicetel; ***Thai.:*** Dicetel; ***Turk.:*** Dicetel; ***Venez.:*** Dicetel.

Maritime Pine

Cluster Pine; Strandkiefer.

CAS — 174882-69-0 (pycnogenol).

Pharmacopoeias. In *USNF.*
USNF 26 (Maritime Pine). It consists of the bark of stems of *Pinus pinaster* (*Pinus maritima*) (Pinaceae). It contains not less than 8.0% and not more than 12.0% of procyanidins, calculated on the dried basis and is intended to be used in the preparation of extracts only and is not for direct human consumption. Store at a temperature of 25°, excursions permitted between 15° and 30°. Protect from moisture.

Profile
The bark of the maritime pine, *Pinus pinaster* (*P. maritima*) (Pinaceae) is a source of flavonoid compounds (p.2304). A mixture of procyanidins extracted from the bark is known as pycnogenol, although the term pycnogenols has also been applied to procyanidin flavonoids in general. Preparations of such bark extracts are promoted for their antoxidant action.

Maritime pine is a source of pine needle oil (see Pine Oil, p.2368). Pine needle oil from maritime pine (Pinus pinaster oil) is included in preparations for minor respiratory-tract disorders and in topical preparations for the relief of musculoskeletal, joint, and soft-tissue disorders. Turpentine oil (p.2406) is distilled from the oleoresin.

Preparations

USP 31: Maritime Pine Extract.

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Aseptobron; ***Ital.:*** Algorex; Flebil Plus; Flogofort; Signum; ***Philipp.:*** Pynocare 40 Actisome; ***UK:*** Zinopin; ***USA:*** Pycnogenol Plus.

Scots Pine

Pin Sylvestre; Pinus Sylvestris; Scotch pine.

Pharmacopoeias. In *Fr.*

Profile
The sprouts of the Scots pine, *Pinus sylvestris* (Pinaceae), are used in herbal medicine for the treatment of catarrh and in topical preparations for mild muscular pain.

Scots pine is a source of pine sylvestris oil, (see p.2368) and pine needle oil (see Pine Oil, p.2368).

Pine Oil

Profile
Pine oil from unspecified species of pine is included in preparations for the relief of coughs and cold symptoms and in topical preparations for the relief of pain in musculoskeletal, joint, and soft-tissue disorders.

Oils from fresh needles, tips, and boughs of *Pinus nigra*, *P. mugo* var. pumilio, *P. pinaster* (Maritime Pine, p.2368), and *P. sylvestris* (Scots Pine, p.2368) are all described as pine needle oil.

Specific pine oils include Pine Silvestris Oil (p.2368), Pumilio Pine Oil (p.2376), and Pinus pinaster oil.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Bayagel; Inhalador Medex; Medex Rub; Novobroncol†; Pre Calent; ***Austral.:*** Solyptol†; Tixylix Chest Rub†; ***Belg.:*** Inopectol; ***Braz.:*** Peitoral Martel†; ***Chile:*** Balsamo Leon†; Hansaplast Descongestionante; Hustagil†; Mentholatum Inhalador; Menthose; ***Cz.:*** Dr Theiss Eucalyptus Erkaltungs-Balsam†; Pinosol; ***Fr.:*** Aromasol; Dinacode†; Febrectol; Maghora; Poudre du Marcheur; ***Ger.:*** Babiforton†; Bronchialbalsam†; Bronchoforton Kinderbalsam; Emser Nasensalbe N†; Nasentropfenratiopharm†; Pinimenthol Erkaltungsinhalat; Pinimenthol Erkaltungssalbe; Pinimenthol Liquidum; Pinimenthol Nasensalbe†; Pinimenthol S†; stas Erkaltungssalbe mild†; stas Erkaltungssalbe†; Tetesept Badekonzentrat Erkaltungs Bad N†; Tetesept Erkaltungs Balsam N mentholfrei; Transpulmin Baby; Transpulmin Kinderbalsam S; Tussamag Erkaltungsbalsam N†; ***Indon.:*** Sloan's Liniment; ***Israel:*** Ment-O-Cap; ***Ital.:*** Calyptol; Ozopulmin; Ozopulmin G; Pulmarin; Sloan; Vicks Inalante; ***Mex.:*** Balsamo Ifusa; ***NZ:*** Karvol; Tixylix Chest Rub; ***Philipp.:*** Kamillosan M; ***Pol.:*** Analgol; Analgolan; Eukaliptiss; Herbolen; Herbolen D; Inhalol; Pinimentol; Pinosol; Pulmonil; Reumatik; Reumosol; Rhin-Bac; ***Port.:*** Freimax†; Lesil; ***Rus.:*** Carmolis Fluid (Кармолис Жидкость)†; Pinosol (Пиносол); Tussamag Balsam (Туссамаг Бальзам от Простуды); ***S.Afr.:*** Karvol; Respisniffers; Woodwards Inhalant; ***Singapore:*** Karvol; ***Switz.:*** Carmol; Demo pommade contre les refroidissements†; Makaphyt Baume†; Novital; Perskindol Classic; Pinimenthol Baby†; Pinimenthol-N†; Pinimenthol†; Pulmex; Wolo Bain antirefroidissement; Wolo Medicinal bain antirhumatismal; Ziegella; ***UK:*** Dragon Balm; Pickles Smelling Salts; ***Venez.:*** Derpinol†; Reugel.

Pine Silvestris Oil

Borovicová silice; Fir-wool Oil; Kiefernnadelöl; Olejek sosny zwyczajnej; Oleum Pini Silvestris; Pin sylvestre, huile essentielle de; Pini silvestris aetheroleum; Pini Silvestris Etheroleum; Pini Sylvestris Aetheroleum; Scotch Pine Needle Oil; Scots Pine Needle Oil; Sylvestris Pine Oil.

Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Pine Sylvestris Oil). An essential oil obtained by steam distillation of the fresh leaves and branches of *Pinus sylvestris*. A suitable antoxidant may be added. A clear, colourless or pale yellow liquid with a characteristic odour. Relative density 0.855 to 0.875. Store in well-filled airtight containers at a temperature not exceeding 25°. Protect from light.

Profile
Pine silvestris oil is obtained from the needles and tips of Scots Pine (p.2368). It is used for catarrh and related disorders of the respiratory tract, often with other volatile substances. It is applied externally for rheumatic disorders and is used in aromatherapy.

P. sylvestris is a source of pine needle oil (see Pine Oil, p.2368).

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Bronco Etersan; ***Austral.:*** Karvol†; ***Austria:*** Bronchoforton†; Colda; Emser Nasensalbe; Erkaltungsbalsam; Luuf Balsam; Piniment; ***Cz.:*** Mucoplant Eukalyptovy; Pinosol; ***Fr.:*** Bronchorectine au Citral; Nazinette du Docteur Gilbert; ***Ger.:*** Aerosol Spitzner N†; Bronchicum Balsam mit Eukalyptusol†; Eucabal-Balsam S†; Hustagil Erkaltungsbalsam†; Melrosum Medizinalbad†; Olynth Erkaltungsbalsam†; Phardol Rheuma†; Piniol Erkaltungsbalsam†; Sanopinwern; Tumarol Kinderbalsam; ***Irl.:*** Karvol; ***Israel:*** Karvol; ***Ital.:*** Abiostil; ***Neth.:*** Luuf Verkoudheidsbalsem; ***Pol.:*** Sirupus Pini Compositus; Sirupus Tussipini; Sirupus Tussipini D; ***Port.:*** Solubeol†; ***Rus.:*** Eucabal-S (Эвкабал С); ***S.Afr.:*** Oleum Salviae Comp; ***Spain:*** Balsamo Kneipp†; Genurat; Mitiderma†; Pulmofasa; Sinus Inhalaciones; Vapores Pyt; ***Switz.:*** Frixo-Dragon Vert†; Marament-N; ***UK:*** Karvol; Potter's Catarrh Pastilles; Proctor's Pinelyptus.

Pinene

2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene (α-pinene); 6,6-dimethyl-2-methylene-bicyclo[3.1.1]heptane (β-pinene).

$C_{10}H_{16}$ = 136.2.
CAS — 80-56-8 (α-pinene); 127-91-3 (β-pinene).

Profile
Pinene is a terpene constituent of turpentine oil (p.2406) and many other essential oils and has been used in preparations for biliary-tract, urinary-tract, and other disorders. It exists as 2 isomers, α-pinene and β-pinene (nopinene, norpinene, terbenthene, terebenthene).

Preparations

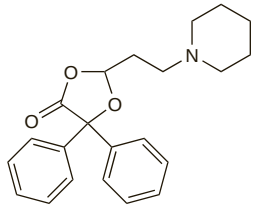
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Anastim con RTH; ***Austria:*** Rowachol; Rowatinex; ***Braz.:*** Quelodin†; ***Chile:*** Rowatinex; ***Cz.:*** Rowachol; Rowatinex; ***Fr.:*** Pectoderme†; ***Ger.:*** Lindofluid N; Rowachol; Rowachol comp†; Rowachol-Digestiv; Rowatinex; ***Hong Kong:*** Neo-Rowachol; Neo-Rowatinex; Rowachol; Rowatinex; ***Hung.:*** Rowachol; Rowatinex; ***Irl.:*** Rowachol; Rowatinex; ***Israel:*** Rowachol; Rowatinex; ***Malaysia:*** Rowachol; Rowatinex; ***Mex.:*** Cholex; ***Philipp.:*** Rowachol; Rowatinex; ***Pol.:*** Rowachol; Rowatinex; Terpichol; ***Spain:*** Rowachol; Rowanefrin; ***Switz.:*** Rowachol; ***Thai.:*** Rowachol; Rowatinex; ***UK:*** Rowachol; ***Venez.:*** Rowachol; Rowatinex.

Pipoxolan *(BAN, pINN)*

Pipoxolán; Pipoxolanum. 5,5-Diphenyl-2-(2-piperidinoethyl)-1,3-dioxolan-4-one.

Пипоксолан

$C_{22}H_{25}NO_3$ = 351.4.
CAS — 23744-24-3.



Pipoxolan Hydrochloride *(BANM, USAN, pINNM)*

Hidrocloruro de pipoxolán; Pipoxolan, Chlorhydrate de; Pipoxolani Hydrochloridum.

Пипоксолана Гидрохлорид

$C_{22}H_{25}NO_3,HCl$ = 387.9.
CAS — 18174-58-8.

Profile
Pipoxolan has been used as the base and the hydrochloride as a smooth muscle relaxant.

Preparations

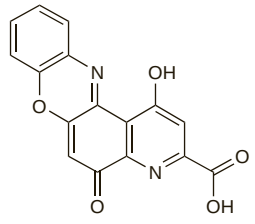
Proprietary Preparations (details are given in Part 3)
Ger.: Rowapraxin†; ***Hong Kong:*** Rowapraxin†; ***Malaysia:*** Rowapraxin†.
Multi-ingredient: ***Irl.:*** Migranat.

Pirenoxine Sodium *(rINNM)*

Catalin Sodium; Natrii Pirenoxinum; Pirenoxina sódica; Pirénoxine Sodique; Pirfenoxone Sodium. Sodium 1-hydroxy-5-oxo-5*H*-pyrido[3,2-*a*]phenoxazine-3-carboxylate.

Натрий Пиреноксин

$C_{16}H_7N_2NaO_5$ = 330.2.
CAS — 1043-21-6 (pirenoxine); 51410-30-1 (pirenoxine sodium).
ATC Vet — QS01XA91.



(pirenoxine)

Pharmacopoeias. *Jpn* includes Pirenoxine.