ing compounds that are more stable, have a longer duration of action, and a more specific effect. Applications include:

- softening and dilating the cervix and for uterine stimulation, e.g. dinoprost (prostaglandin F_2) (p.2006) and its analogue carboprost (p.2006); dinoprostone (prostaglandin E_2) (p.2007) and its analogue sulprostone (p.2018); and gemeprost (p.2010) and misoprostol (p.2013), analogues of prostaglandin E_1
- vasodilators and inhibitors of platelet aggregation, e.g. alprostadil (prostaglandin E_1) (p.2183) and its analogue limaprost (p.1325); and epoprostenol (prostacyclin) (p.1279) and its analogue iloprost (p.1313)
- inhibition of gastric acid secretion and protection of the gastrointestinal mucosa, e.g. misoprostol (p.2013)
- glaucoma treatment, e.g. bimatoprost (p.1878), latanoprost (p.1882), travoprost (p.1886), and unoprostone (p.1886)
- as luteolytics (causing regression of the corpus luteum in the ovary) in veterinary medicine, e.g. synthetic analogues of prostaglandin F_2 .

◊ References.

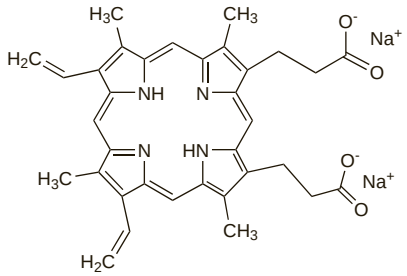
1. Moncada S, Vane JR. Arachidonic acid metabolites and the interactions between platelets and blood-vessel walls. *N Engl J Med* 1979; **300:** 1142–7.
2. Higgs GA, Vane JR. Inhibition of cyclo-oxygenase and lipoxygenase. *Br Med Bull* 1983; **39:** 265–70.
3. Halushka PV, *et al.* Thromboxane, prostaglandin and leukotriene receptors. *Annu Rev Pharmacol Toxicol* 1989; **29:** 213–39.
4. Smith WL, *et al.* Prostaglandin and thromboxane biosynthesis. *Pharmacol Ther* 1991; **49:** 153–79.
5. O'Neill C. The biochemistry of prostaglandins: a primer. *Aust N Z J Obstet Gynaecol* 1994; **34:** 332–7.
6. Wu KK. Molecular regulation and augmentation of prostacyclin biosynthesis. *Agents Actions Suppl* 1995; **45:** 11–17.

Protoporphyrin IX Disodium

Protoporfirina IX disódica; Protoporphyrin Disodium. Disodium 7,12-diethenyl-3,8,13,17-tetramethyl-21*H*,23*H*-porphine-2,18-dipropanoate.

$C_{34}H_{32}N_4Na_2O_4$ = 606.6.

CAS — 50865-01-5 (protoporphyrin IX disodium); 553-12-8 (protoporphyrin IX).



Profile

Protoporphyrin IX disodium has been given by mouth for the treatment of impaired hepatic function associated with gallstones and cholecystitis.

Proxazole Citrate *(USAN, rINNM)*

AF-634; Citrato de proxazol; Propaxoline Citrate; Proxazole, Citrate de; Proxazoli Citras; PZ-17105. *NN*-Diethyl-3-(1-phenylpropyl)-1,2,4-oxadiazole-5-ethanamine citrate.

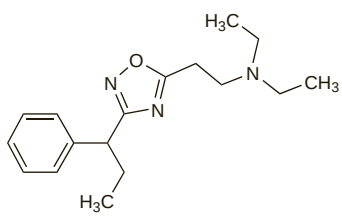
Проксазола Цитрат

$C_{17}H_{25}N_3O,C_6H_8O_7$ = 479.5.

CAS — 5696-09-3 (proxazole); 132-35-4 (proxazole citrate).

ATC — A03AX07.

ATC Vet — QA03AX07.



(proxazole)

Profile

Proxazole citrate has been used as an antispasmodic and in vascular disorders.

Preparations

Proprietary Preparations (details are given in Part 3)
Ital.: Toness†.

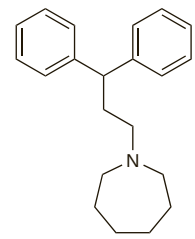
Prozapine Hydrochloride *(rINNM)*

Hexadiphane Hydrochloride; Hidrocloruro de prozapina; Prozapine, Chlorhydrate de; Prozapini Hydrochloridum. 1-(3,3-Diphenylpropyl)cyclohexamethyleneimine hydrochloride.

Прозапина Гидрохлорид

$C_{21}H_{27}N,HCl$ = 329.9.

CAS — 3426-08-2 (prozapine); 13657-24-4 (prozapine hydrochloride).



(prozapine)

Profile

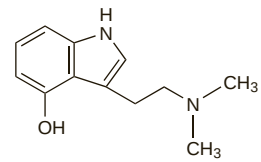
Prozapine hydrochloride is an antispasmodic that has been given orally with sorbitol in biliary and gastrointestinal disorders.

Psilocin

4-Hydroxy-*NN*-dimethyltryptamine; Psilocina; Psilocyn. 3-(2-Dimethylaminoethyl)indol-4-ol.

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

CAS — 520-53-6.



NOTE. The following terms have been used as 'street names' (see p.vi) or slang names for various forms of psilocin or mushrooms containing psilocin:
1UP's; Abhort; Aborts; Alice; Benzies; Blue Rimmers; Boom-Dads; Boomers; Caps; Crumb Tarts; Cubes; FireWorks; Fun Gus; Fun Guys; Fungus; God's flesh; Goombas; Gus; Jesus; Lalkas; Liberty caps; Little smoke; Magic mushroom; Magic Mushrooms; Marios; Mexican mushroom; Mexican mushrooms; Mucks; Muggers; Mush; Mushies; Mushrooms; Musk; Pizza Toppings; Shroomies; Shrooms; Silly putty; Simple Simon; Smurfhats; Toads; Umbrellas; Yellow Bentines; Zoomers; Zoomies.

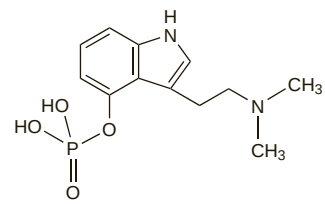
Psilocybine *(BAN, rINN)*

CY-39; 4-Phosphoryloxy-*NN*-dimethyltryptamine; Psilocibina; Psilocybin; Psilocybinum; Psilosybiini. 3-(2-Dimethylaminoethyl)indol-4-yl dihydrogen phosphate.

Псилоцибин

$C_{12}H_{17}N_2O_4P$ = 284.2.

CAS — 520-52-5.



NOTE. The following terms have been used as 'street names' (see p.vi) or slang names for various forms of psilocybine or mushrooms containing psilocybine:
1 UP's; Alice; Benzies; Blue caps; Blue Rimmers; Boom-Dads; Boomers; Booms; Buttons; Caps; Champ; Crumb Tarts; Cubes; FireWorks; Fun Gus; Fun Guys; Fungus; Funguys; God's flesh; Goombas; Gus; Hombrecitos; Jesus; Lalkas; Las mujercitas; Little smoke; Magic mushroom; Magic mushrooms; Marios; Mexican mushroom; Mexican mushrooms; Mucks; Muggers; Mush; Mushies; Mushroom soup; Mushroom tea; Mushrooms; Musk; Philosopher's Stones; Pizza toppings; Rooms; Sacre mushroom; Sacred mushroom; Sacred mushrooms; Shroomies; Shrooms; Silly putty; Simple Simon; Smurfhats; Teonanactl; Toads; Truffles; Umbrellas; Yellow Bentines; Zoomers; Zoomies.

Profile

Psilocin and psilocybine are indole alkaloids obtained from the sacred Mexican mushroom (teonanácatl), *Psilocybe mexicana* (Agaricaceae).

In the UK, psilocybine is present in the indigenous mushroom *Psilocybe semilanceata* (magic mushroom; liberty cap). Psilocybine is also present in other species of mushrooms including *Stropharia cubensis* and *Conocybe* spp.

Psilocybine has hallucinogenic and sympathomimetic properties similar to those of lysergide (p.2335). It is less potent than lysergide and its hallucinogenic effects last for up to 6 hours. There is evidence to suggest that psilocybine is converted to the active form psilocin in the body. It has no therapeutic use.

Pulegium Oil

Pennyroyal Oil; Poleo, aceite esencial de.

Profile

Pulegium oil is a volatile oil distilled from pennyroyal herb, *Mentha pulegium* (Labiatae), containing pulegone ($C_{10}H_{16}O$ = 152.2). It was formerly used as an emmenagogue. Severe toxic effects have followed its use as an abortifacient with convulsions, hepatotoxicity, and death. It is reported to have insect repellent activity.

Adverse effects. Severe hepatotoxicity accompanied by seizures occurred in 2 infants each of whom had received herbal teas containing pulegium oil.[1] In one of the infants multiple organ failure developed, and fulminant hepatic failure with hepatocellular necrosis and cerebral oedema proved fatal. A further 4 cases of toxicity associated with ingestion of pulegium oil have been reported;[2] three of the cases were adult patients who had ingested either herbal teas to induce menses (2 cases) or a herbal extract as an abortifacient (1 fatality), and the fourth was a 22-month old child who had ingested the oil.

1. Bakerink JA, *et al.* Multiple organ failure after ingestion of pennyroyal oil from herbal tea in two infants. *Pediatrics* 1996; **98:** 944–7.
2. Anderson IB, *et al.* Pennyroyal toxicity: measurement of toxic metabolite levels in two cases and review of the literature. *Ann Intern Med* 1996; **124:** 726–34.

Pulmonary Surfactants

Tensioactivos pulmonares.

Description. Pulmonary surfactants are mixtures consisting mainly of phospholipids and surfactant proteins that are used to replace deficient endogenous lung surfactants. A number of preparations have been studied including:

- natural human surfactant obtained from amniotic fluid or biosynthetic material
- natural animal-derived surfactants, which are bovine or porcine lung extracts that may be modified by the addition of synthetic surfactants, as in the case of beractant, or unmodified, as in the case of bovactant and calfactant
- synthetic or semisynthetic preparations, which may contain the phospholipid colfosceril palmitate, a major constituent of natural lung surfactants, in combination with other substances that aid spreading and absorption such as the synthetic peptide sinapultide.

Beractant *(BAN, USAN)*

A-60386X.

CAS — 108778-82-1.

Description. Beractant is a modified bovine lung extract containing mostly phospholipids, modified by the addition of colfosceril palmitate, palmitic acid, and tripalmitin.
The term Surfactant TA has been applied to a modified bovine lung surfactant.

Bovactant *(BAN)*

SF-R11.

Description. Bovactant is an extract of bovine lung containing about 92% of phospholipids, 3.2% of cholesterol, 0.6% of surfactant-associated hydrophobic proteins, and 0.4% of free fatty acid.

Calfactant *(BAN, USAN)*

CAS — 183325-78-2.

Description. Calfactant is an unmodified calf lung extract that includes mostly phospholipids and hydrophobic surfactant-specific proteins (SP-B and SP-C).

Colfosceril Palmitate *(BAN, USAN, rINN)*

Colfoscéril, Palmitate de; Colfoscerili Palmitas; Dipalmitoylphosphatidylcholine; DPPC; Palmitato de colfoscerilo; 129Y83. 1,2-Dipalmitoyl-*sn*-glycero(3)phosphocholine.

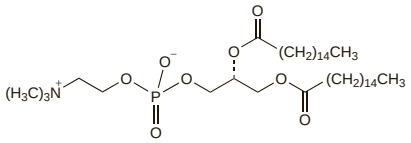
Колфосцерила Пальмитат

$C_{40}H_{80}NO_8P$ = 734.0.

CAS — 63-89-8.

ATC — R07AA01.

ATC Vet — QR07AA01.



Description. Colfosceril palmitate is a phospholipid which forms an important constituent of natural and many synthetic pulmonary surfactant compounds.

Lucinactant *(USAN)*

ATI-02; KL_4-surfactant.

Description. Lucinactant is a mixture of sinapultide, colfosceril palmitate, sodium palmitoyloleaylphosphatidyl glycerol, and palmitic acid.

Poractant Alfa *(BAN)*

CAS — 129069-19-8.

Description. Poractant alfa is an extract of porcine lung containing not less than 90% of phospholipids, about 1% of hydrophobic proteins (SP-B and SP-C), and about 9% of other lipids.

Pumactant *(BAN)*

Artificial Lung Expanding Compound.

Description. Pumactant is a mixture of colfosceril palmitate and phosphatidyl glycerol (2-oleoyl-1-palmitoyl-*sn*-glycero(3)phospho(1)-*sn*-glycerol) in the proportion 7:3.

Sinapultide *(USAN, rINN)*

ATI-01; Sinapultida; Sinapultidum.

Синапультид

CAS — 138531-07-4.

Description. Sinapultide is a synthetic peptide that mimics the actions of human surfactant protein B, an important constituent of natural pulmonary surfactant compounds.

Adverse Effects and Precautions

Surfactant therapy may be associated with an increased risk of pulmonary haemorrhage, especially in more premature infants. Therapy should only be given where there are adequate facilities for ventilation and monitoring. Rapid chest expansion and improvement of oxygenation may follow successful treatment, and peak ventilatory pressure and inspired oxygen concentration may need to be reduced promptly to avoid the risk of pneumothorax and hyperoxaemia. A transient decrease in brain electrical activity has been reported in neonates given surfactant but its significance is unknown. Transient bradycardia has also been reported. Giving surfactant has occasionally been associated with obstruction of the endotracheal tube by mucus.

◊ While surfactant therapy is clearly associated with an increased risk of pulmonary haemorrhage,[1-4] meta-analysis suggests that the risk is small compared with the benefits.[1] However, neonates who do develop moderate or severe pulmonary haemorrhage after surfactant therapy are at increased risk of death or short-term morbidity.[5] Haemodynamic changes associated with surfactant therapy or consequent pulmonary haemorrhage may also predispose premature infants to intracranial (periventricular) haemorrhage.[5,6] Early preventive use of surfactant in very low birthweight infants may be associated with a poorer neurodevelopmental outcome,[7] although a long-term follow-up study[8] of premature infants born in the surfactant era concluded that these children had similar neurodevelopmental outcomes to such children born before the introduction of surfactant therapy. Decreased brain electrical activity has been reported after surfactant treatment.[9]

The rate of instillation of surfactant may be significant: one study,[10] in which the apparatus was adapted so that mechanical ventilation could continue while giving surfactant, found that rapid instillation over a 5-minute period provoked a transient increase in cerebral blood flow velocity associated with an increase in carbon dioxide tension, compared with slow instillation over 15 minutes. Although the authors acknowledged that such changes were likely to be related to several factors, particularly the type of surfactant, they recommended that, until further data were available, instillation should take place slowly, over at least 15 to 20 minutes.

1. Raju TNK, Langenberg P. Pulmonary hemorrhage and exogenous surfactant therapy: a metaanalysis. *J Pediatr* 1993; **123:** 603–10.
2. Majeed-Saidan MA, *et al.* Pulmonary haemorrhage in low-birthweight babies. *Lancet* 1993; **341:** 120.
3. Rogers D. Pulmonary haemorrhage, surfactant, and low-birthweight babies. *Lancet* 1993; **341:** 698.
4. Pappin A, *et al.* Extensive intraalveolar pulmonary hemorrhage in infants dying after surfactant therapy. *J Pediatr* 1994; **124:** 621–6.
5. Pandit PB, *et al.* Outcome following pulmonary haemorrhage in very low birthweight neonates treated with surfactant. *Arch Dis Child Fetal Neonatal Ed* 1999; **81:** F40–F44.
6. Gunkel JH, Banks PLC. Surfactant therapy and intracranial hemorrhage: review of the literature and results of new analyses. *Pediatrics* 1993; **92:** 775–86.
7. Vaucher YE, *et al.* Outcome at twelve months of adjusted age in very low birthweight infants with lung immaturity: a randomized placebo-controlled trial of human surfactant. *J Pediatr* 1993; **122:** 126–32.
8. D'Angio CT, *et al.* Longitudinal, 15-year follow-up of children born at less than 29 weeks' gestation after introduction of surfactant therapy into a region: neurologic, cognitive, and educational outcomes. *Pediatrics* 2002; **110:** 1094–1102.
9. Hellström-Westas L, *et al.* Cerebroelectrical depression following surfactant treatment in preterm neonates. *Pediatrics* 1992; **89:** 643–7.
10. Saliba E, *et al.* Instillation rate effects of Exosurf on cerebral and cardiovascular haemodynamics in preterm neonates. *Arch Dis Child* 1994; **71:** F174–8.

Uses and Administration

Pulmonary surfactants are compounds with surface active properties similar to those natural substances in the lung that help to maintain the patency of the airways by reducing the surface tension of pulmonary fluids. Exogenous pulmonary surfactants are used in the treatment of neonatal respiratory distress syndrome (p.1508) in premature infants, and may also be given for prevention in infants considered to be at risk of developing the syndrome. Doses vary, but most pulmonary surfactants are given in recommended doses of 100 to 200 mg phospholipids per kg birth-weight; a suggested dose for colfosceril palmitate is 67.5 mg/kg. For the treatment of overt neonatal respiratory distress syndrome, the initial dose is given as soon as possible after diagnosis, while for prevention it is given as soon as possible after birth. It is given as a suspension via an endotracheal tube to intubated neonates receiving mechanical ventilation. Manufacturers may recommend regimens with or without disconnection from the ventilator. Repeat doses may be given if necessary, although the number of doses and the dosage interval varies.

Pulmonary surfactants have also been tried in bronchopulmonary dysplasia in premature infants, meconium aspiration syndrome in newborn infants, and acute respiratory distress syndrome in adults. A similar compound lusupultide is also under investigation for aspiration pneumonitis.

Acute respiratory distress syndrome. Pulmonary surfactants have been investigated for acute respiratory distress syndrome (p.1498). In adults, they have been given by intrabronchial instillation[1] or nebulisation[2-4] but results have been largely disappointing. Sequential bronchopulmonary segmental lavage with a synthetic surfactant has also been tried[5] and appeared to be well tolerated. Endotracheal poractant alfa moderately improved oxygenation in some children with severe acute respiratory distress syndrome secondary to pulmonary or systemic disease.[6]

1. Haslam PL, *et al.* Surfactant replacement therapy in late-stage adult respiratory distress syndrome. *Lancet* 1994; **343:** 1009–11.
2. do Campo JL, *et al.* Natural surfactant aerosolisation in adult respiratory distress syndrome. *Lancet* 1994; **344:** 413–14.
3. Weg JG, *et al.* Safety and potential efficacy of an aerosolized surfactant in human sepsis-induced adult respiratory distress syndrome. *JAMA* 1994; **272:** 1433–8.
4. Anzueto A, *et al.* Aerosolized surfactant in adults with sepsis-induced respiratory distress syndrome. *N Engl J Med* 1996; **334:** 1417–21.
5. Wiswell TE, *et al.* Bronchopulmonary segmental lavage with Surfaxin (KL -Surfactant) for acute respiratory distress syndrome. *Am J Respir Crit Care Med* 1999; **160:** 1188–95.
6. López-Herce J, *et al.* Surfactant treatment for acute respiratory distress syndrome. *Arch Dis Child* 1999; **80:** 248–52.

Drowning. Reference to the use of colfosceril palmitate in the management of a 9-year-old rescued after near drowning.[1]

1. McBrien M, *et al.* Artificial surfactant in the treatment of near drowning. *Lancet* 1993; **342:** 1485–6.

Meconium aspiration syndrome. Meconium aspiration syndrome produces respiratory distress in infants born at term or later and is a consequence of disturbances of the pulmonary surfactant system. Bolus doses of exogenous pulmonary surfactant are of benefit in some ventilated infants, although lung lavage with dilute surfactant is also under investigation.[1] Results from a pilot study[2] of beractant as a tracheobronchial lavage fluid for the treatment of infants with severe meconium aspiration syndrome were promising, and a small comparative trial[3] found that bronchoalveolar lavage with diluted beractant, with or without intravenous dexamethasone, significantly improved oxygenation in neonates when compared with standard therapy. Systematic review[4] of 4 randomised controlled trials evaluating the effect of pulmonary surfactants also found encouraging results, although comparison with other established treatments for meconium aspiration syndrome remains to be done.

1. Dargaville PA, Mills JF. Surfactant therapy for meconium aspiration syndrome: current status. *Drugs* 2005; **65:** 2569–91.
2. Lam BCC, Yeung CY. Surfactant lavage for meconium aspiration syndrome: a pilot study. *Pediatrics* 1999; **103:** 1014–18.
3. Salvia-Roigés MD, *et al.* Efficacy of three treatment schedules in severe meconium aspiration syndrome. *Acta Paediatr* 2004; **93:** 60–5.
4. El Shahed AI, *et al.* Surfactant for meconium aspiration syndrome in full term/near term infants. Available in The Cochrane Database of Systematic Reviews; Issue 3. Chichester: John Wiley; 2007 (accessed 13/06/08).

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Baby Fact B; Exosurf†; Natsurf†; Surfactante B; Survanta; ***Austral.:*** Curosurf; Exosurf; Survanta; ***Austria:*** Alveofact†; Curosurf; Exosurf; Survanta; ***Belg.:*** Alvofact†; Curosurf; Survanta; ***Braz.:*** Alveofact; Curosurf; Exosurf†; Survanta; ***Canad.:*** BLES; Exosurf†; Survanta; ***Chile:*** Exosurf†; Survanta; ***Cz.:*** Alveofact†; Curosurf; Exosurf†; Survanta; ***Denm.:*** Curosurf; ***Fin.:*** Curosurf; ***Fr.:*** Curosurf; Survanta; ***Ger.:*** Alveofact; Curosurf; Survanta; ***Gr.:*** Alvofact; Curosurf; Exosurf†; Survanta; ***Hong Kong:*** Exosurf†; Survanta; ***Hung.:*** Curosurf; Survanta; ***Indon.:*** Survanta; ***Irl.:*** Curosurf; Exosurf†; ***Israel:*** Curosurf; Exosurf†; Infasurf; ***Ital.:*** Curosurf; Exosurf†; ***Jpn:*** Surfacten; ***Malaysia:*** Survanta; ***Mex.:*** Exosurf; Survanta; ***Neth.:*** Alvofact†; Curosurf; Exosurf†; Survanta; ***Norw.:*** Curosurf; Survanta-Vent; ***NZ:*** Curosurf; Survanta; ***Philipp.:*** Survanta; ***Pol.:*** Alveofact; Curosurf; Survanta; ***Port.:*** Curosurf; ***Rus.:*** Curosurf (Куросурф); ***S.Afr.:*** Curosurf; Survanta; ***Singapore:*** Survanta; ***Spain:*** Curosurf; Survanta; ***Swed.:*** Curosurf; Survanta-Vent†; ***Switz.:*** Curosurf; Survanta; ***Thai.:*** Curosurf; Survanta; ***UK:*** Curosurf; Survanta; ***USA:*** Curosurf; Exosurf†; Infasurf; Survanta; ***Venez.:*** Survanta.

Pulsatilla

Anémone pulsatille; Meadow Anemone; Pasque Flower.

CAS — 62887-80-3.

Profile

Pulsatilla is the whole flowering plant of *Pulsatilla vulgaris* (*Anemone pulsatilla*) or *Pulsatilla pratensis* (Ranunculaceae). It has been used in herbal preparations for the treatment of conditions including nervous disorders, circulatory disorders, and gynaecological disorders and benign prostatic hyperplasia.

Homoeopathy. Pulsatilla has been used in homoeopathic medicines under the following names: Pulsatilla pratensis; Pulsatilla vulgaris; Pulsatilla nigricans; Puls.

Preparations

Proprietary Preparations (details are given in Part 3)
USA: Yeast-X†.

Multi-ingredient: ***Austral.:*** Bioglan Cirflo†; Calmo; Lifesystem Herbal Formula 4 Women's Formula†; Proflo†; Women's Formula Herbal Formula 3†; ***Braz.:*** Eviprostat†; ***Cz.:*** Cicaderma; ***Fr.:*** Cicaderma; Hepatoum; Histo-Fluine P; ***Ger.:*** Eviprostat N; ***Indon.:*** Eviprostat; ***Jpn:*** Eviprostat; ***Port.:*** Cicaderma; ***S.Afr.:*** Cough Elixir; ***Singapore:*** Eviprostat; ***UK:*** Anased; Menopause Relief; Period Pain Relief; Prementaid.

Pumilio Pine Oil

Dwarf Pine Needle Oil; Dwarf Pine Oil; Essence de Pin de Montagne; Latschenöl; Oleum Pini Pumilionis; Olio di Mugo; Pin de montagne, huile essentielle de; Pini pumilionis aetheroleum; Pino mugo, aceite esencial de.

CAS — 8016-46-4.

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

Ph. Eur. 6.2 (Dwarf Pine Oil). An essential oil obtained by steam distillation of the fresh leaves and twigs of *Pinus mugo*. A suitable antoxidant may be added. Relative density 0.857 to 0.868. A clear, colourless or pale yellow liquid. Store in inert, well-filled, airtight containers at a temperature not exceeding 25°. Protect from light.

Profile

Pumilio pine oil is a volatile oil obtained by distillation from the fresh leaves of *Pinus mugo* var. *pumilio* (Pinaceae). It has been inhaled with steam, sometimes with other essential oils, to relieve cough and nasal congestion and has been applied externally as a rubefacient. It has also been used as a perfume.

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

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Austral.:*** Biosal Arthritis; Biosal†; Goanna Heat Cream; Goanna Salve; Karvol†; Menalation†; Vicks Inhaler; ***Austria:*** Berggeist; Bronchostop; Colda; Emser Nasensalbe; Erkaltungsbalsam; Expectal-Balsam; Leukona-Rheuma-Bad; Luuf Balsam; Mentopin; Nasanal; Opino; Piniment; ***Cz.:*** Thrombocid; Transpulmin; ***Ger.:*** Aerosol Spitzner N†; Dolo-cyl; Em-eukal†; Emser Nasensalbe N†; Euflux; Franzbranntwein; Hevertopect N†; Klosterfrau Franzbranntwein Latschenkiefer; Nasentropfen-ratiopharm†; Ner-fluid S; polio-elan; Rosarthron†; Thrombocid; ***Gr.:*** Opino-jel; ***Irl.:*** Karvol; ***Israel:*** Karvol; Mentholatum Balm; ***Ital.:*** Altuss; Antipulmina†; Broncosedina; Pinedrin†; Pumilene Vapo; ***Malaysia:*** Purporent†; ***Neth.:*** Luuf Verkoudheidsbalsem; ***NZ:*** Vicks Inhaler; ***Port.:*** Thrombocid; ***Switz.:*** Eau-de-vie de France avec huile de pin nain du Tirol†; Eucapinol; Liberol Baby N; Liberol Bain†; Liberol N; Makaphyt Baume†; Pinimenthol†; Piniol Pommade Speciale†; Thrombocid; ***UK:*** Allens Pine & Honey; Karvol; Mentholatum Rub; Original Cabdrivers Expectorant; Potter's Catarrh Pastilles.

Punarnava

Punarnaba.

Profile

Punarnava is the fresh or dried plant *Boerhaavia diffusa* (*B. repens*) (Nyctaginaceae), containing an alkaloid, punarnavine. It has been used as a diuretic and for liver disorders, usually in the form of a liquid extract.