

**Profile**

Pirenexine sodium is used in the treatment of cataracts, usually as 0.005% eye drops.

**Preparations**

**Proprietary Preparations** (details are given in Part 3)

**Arg.:** Catalin†; **Braz.:** Clarvisol; **Ger.:** Clarvisor†; **Gr.:** Catalin; **Hong Kong:** Catalin; Kary Uni; **India:** Catalin; **Indon.:** Catalin; Kary Uni; **Ital.:** Clarvisan; Pirfalin; **Jpn:** Catalin; **Malaysia:** Catalin†; **Mex.:** Clarvisan†; **Philipp.:** Catalin; Kary Uni; **Pol.:** Catalin; **Port.:** Clarvisan; **Singapore:** Catalin; Kary Uni; **Spain:** Clarvisan; **Thai.:** Catalin; Kary Uni.

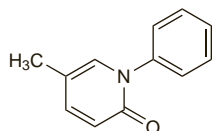
**Pirfenidone** (USAN, rINN)

AMR-69; Pirfenidona; Pirfénidone; Pirfenidonum. 5-Methyl-1-phenyl-2-(1*H*)-pyridone.

Пирфенидон

$C_{12}H_{11}NO = 185.2$ .

CAS — 53179-13-8.

**Profile**

Pirfenidone is an antifibrotic drug under investigation in disorders such as idiopathic pulmonary fibrosis, multiple sclerosis, and familial adenomatous polyposis.

## ♦ References.

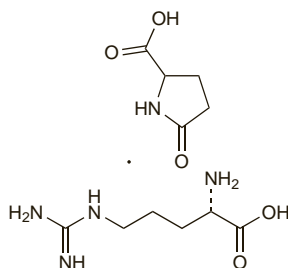
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- Walker JE, Margolin SB. Pirfenidone for chronic progressive multiple sclerosis. *Multiple Sclerosis* 2001; **7**: 305–12.
- Nagai S, *et al.* Open-label compassionate use one year-treatment with pirfenidone to patients with chronic pulmonary fibrosis. *Intern Med* 2002; **41**: 1118–23.
- Bowen JD, *et al.* Open-label study of pirfenidone in patients with progressive forms of multiple sclerosis. *Multiple Sclerosis* 2003; **9**: 280–3.
- Lindor NM, *et al.* Desmoid tumors in familial adenomatous polyposis: a pilot project evaluating efficacy of treatment with pirfenidone. *Am J Gastroenterol* 2003; **98**: 1868–74.
- Azuma A, *et al.* Double-blind, placebo-controlled trial of pirfenidone in patients with idiopathic pulmonary fibrosis. *Am J Respir Crit Care Med* 2005; **171**: 1040–7.
- Walker JE, *et al.* A double-blind, randomized, controlled study of oral pirfenidone for treatment of secondary progressive multiple sclerosis. *Multiple Sclerosis* 2005; **11**: 149–58.
- Babovic-Vuksanovic D, *et al.* Phase II trial of pirfenidone in adults with neurofibromatosis type 1. *Neurology* 2006; **67**: 1860–2.
- Shi S, *et al.* Single- and multiple-dose pharmacokinetics of pirfenidone, an antifibrotic agent, in healthy Chinese volunteers. *J Clin Pharmacol* 2007; **47**: 1268–76.

**Pirglutargine**

Arginina, piroglutamato de; Arginine Pidolate; Arginine Pyroglutamate. L-Arginine DL-pyroglutamate.

$C_{11}H_{21}N_5O_5 = 303.3$ .

CAS — 64855-91-0.

**Profile**

Pirglutargine has been used for its reputed cerebral stimulant effect.

**Preparations**

**Proprietary Preparations** (details are given in Part 3)

**Ital.:** Adjuvant†.

**Multi-ingredient: Port.:** Detoxergon.

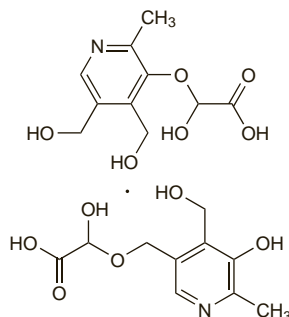
**Piridoxilate** (BAN, rINN)

Piridoxilato; Piridoxilatum; Pyridoxine  $\alpha_5$ -Hemiacetal Glyoxylate; Pyridoxylate. The reciprocal salt of 2-(5-hydroxy-4-hydroxymethyl-6-methyl-3-pyridylmethoxy)glycolic acid with 2-[4,5-bis(hydroxymethyl)-2-methyl-3-pyridyloxy]glycolic acid (1:1).

Пиридоксилат

$C_{10}H_{13}NO_6 \cdot C_{10}H_{13}NO_6 = 486.4$ .

CAS — 24340-35-0.

**Profile**

Piridoxilate was formerly used in the treatment of various circulatory disorders. It has been associated with the development of kidney stones and renal impairment.

**Pirisudanol Maleate** (rNNM)

Dimaleato de pirisudanol; Pirisudanol, Maléate de; Pirisudanoli Maleas; Pyrisuccideanol Maleate. 2-Dimethylaminoethyl 5-hydroxy-4-hydroxymethyl-6-methyl-3-pyridylmethyl succinate maleate.

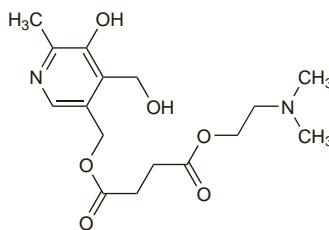
Пирисуданола Малеат

$C_{16}H_{24}N_2O_6 \cdot (C_4H_4O_4)_2 = 572.5$ .

CAS — 33605-94-6 (pirisudanol); 53659-00-0 (pirisudanol maleate).

ATC — N06BX08.

ATC Vet — QN06BX08.



(pirisudanol)

**Profile**

Pirisudanol is the succinic acid ester of pyridoxine and of deanol. It has been given as the maleate in the management of impaired mental function in doses of up to 1.2 g daily.

**Preparations**

**Proprietary Preparations** (details are given in Part 3)

**Ital.:** Mentium†; **Port.:** Pridana; **Spain:** Mentis.

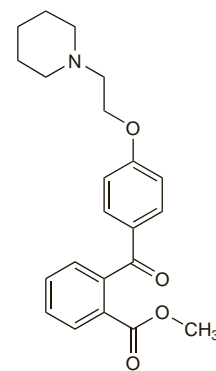
**Pitofenone Hydrochloride** (rNNM)

Hidrocloruro de pitofenona; Pitofénone, Chlorhydrate de; Pitofenoni Hydrochloridum. Methyl 2-[4-(2-piperidinoethoxy)benzoyl]benzoate hydrochloride.

Питофенона Гидрохлорид

$C_{22}H_{25}NO_4 \cdot HCl = 403.9$ .

CAS — 54063-52-4 (pitofenone); 1248-42-6 (pitofenone hydrochloride).



(pitofenone)

**Profile**

Pitofenone hydrochloride has been used as an antispasmodic.

**Preparations**

**Proprietary Preparations** (details are given in Part 3)

**Multi-ingredient: Cz.:** Algifen; Algifen Neo; Analgin; Spasmopan; **Fin.:** Litalgin; **Pol.:** Spasmalgon; **Rus.:** Baralgetas (Баралгетас)†; Maxigan (Максиган); Nebalgon (Небалган); Novigan (Новиган); Revalgin (Ревалгин); Spasgan (Спазган); Spasmalgon (Спазмалгон); Spasmalin (Спазмалин); **S.Afr.:** Baralgan†; **Thai.:** Kanegan; **Venez.:** Flemibar.

**Powdered Pituitary (Posterior Lobe)**

Hipófisis pulverizada (neurohipófisis); Hypophysis Cerebri Pars Posterior; Hypophysis Sicca; Ipofisi Posteriore; Pituitarium Posterioris Pulveratum; Pituitary; Posterior Pituitary.

NOTE. Pituitary Extract (Posterior) is *BAN*.

**Pharmacopoeias.** In *Chin*.

**Profile**

Powdered pituitary (posterior lobe) is a preparation from the posterior lobes of mammalian pituitary bodies. It has oxytocic, pressor, antidiuretic, and hyperglycaemic actions and has generally been replaced by compounds or preparations with more specific actions such as oxytocin (p.2015) and desmopressin (p.2185).

It has been included as an ingredient of a number of preparations of combined tissue extracts promoted as tonics or for a variety of non-endocrine disorders. Hypersensitivity reactions, including anaphylaxis, have occasionally been reported.

**Plantain**

Llantén; Plantain grand.

**Pharmacopoeias.** *Chin.* and *Jpn.* include the herb and seeds from *Plantago asiatica*. *Chin* also permits *P. depressa*.

**Profile**

The seeds and leaves of the common or greater plantain (*Plantago major*) are reported to possess diuretic and antihæmorrhagic properties. They are used in herbal preparations.

The Asian plantain (*P. asiatica*) and the depressed plantain (*P. depressa*) are also used in herbal medicine.

The ribwort plantain (*P. lanceolata*) is described on p.2379.

**Homoeopathy.** Plantain has been used in homoeopathic medicines under the following names: Plantago; Plantago major; Plant. m.

**Preparations**

**Proprietary Preparations** (details are given in Part 3)

**Multi-ingredient: Fr.:** Biopause solution intime; Ephydrol; **Indon.:** Hyric; Renax; **Port.:** Erpecalm; **Switz.:** Kernosan Elixir; Pastilles pectorales Demo N; Pectoral N; Tisane pectorale antitussive; Tisane pectorale pour les enfants.

**Plastics**

Plásticos.

**Pharmacopoeias.** Many pharmacopoeias include standards for plastic containers and closures.

**Adverse Effects**

Plastic materials used in medicine and pharmacy may give rise to adverse effects, either by direct contact of the plastic with tissues or by indirect contact (for example, when a solution stored in a plastic container, such as a disposable syringe, is injected). Adverse effects may also arise among workers through handling the materials or by inhaling fumes during manufacture.

Pure polymeric plastics appear to be of low toxicity, though carcinogenic effects have been produced by some on prolonged implantation. However, some monomers are toxic, as may be substances added during manufacture to impart specific physical

properties. These additives include plasticisers added to reduce brittleness, ultraviolet-ray absorbers to prevent degradation by light, and antioxidants and lubricants which are sometimes needed for satisfactory processing. Monomer residues or additives can leach out from the finished plastic materials and have been the main causes of adverse effects. These may include haemolysis of blood cells, thrombosis, hypersensitivity reactions, precancerous changes, and local tissue necrosis. Silicone particles have been shed from dialysis tubing resulting in hypersplenism, pancytopenia, and occasionally in the production of a granulomatous hepatitis.

See also under Vinyl Chloride, p.2414, Methylmethacrylate, p.2343, and Polytef, below.

## Pleurisy Root

*Asclepia tuberosa*; Butterfly Weed.

## Profile

The root of *Asclepias tuberosa* (Asclepiadaceae) has traditionally been used for pleurisy and other respiratory-tract disorders.

## Preparations

**Proprietary Preparations** (details are given in Part 3)

**Multi-ingredient:** **Austral:** Broncafert; Verbasum Complex†; **UK:** Antibron; Chest Mixture; Horehound and Aniseed Cough Mixture; Vegetable Cough Remover.

## Pokeroot

Fitolacca; Poke Root.

**Pharmacopoeias.** In *Chin*.

## Profile

Pokeroot, the root of *Phytolacca decandra* (*P. americana*) (Phytolaccaceae) has emetic, purgative, anti-inflammatory, and anti-infective actions. It has been used for rheumatic and arthritic disorders, and for respiratory-tract infections, but is highly toxic in large doses and is not generally recommended. It has also been used externally for skin disorders.

The related species, *P. dodecandra*, is the source of the molluscicide endod (p.2042).

**Homoeopathy.** Pokeroot has been used in homoeopathic medicines under the following names: Phytolacca; Phytolacca americana; Phytolacca americana e baccis; Phytolacca e baccis; Phytoto.

## Preparations

**Proprietary Preparations** (details are given in Part 3)

**Multi-ingredient:** **Chile:** Homeoplasmina†; **Fr.:** Homeoplasmine; **UK:** Psorasolv.

## Polacrilin Potassium (USAN, rINNM)

Kalii Polacrilinum; Polacrilina potásica; Polacriline Potassique; Polacrilinum Kalii.

Калия Полакрийлин

CAS — 54182-62-6 (polacrilin); 50602-21-6 (polacrilin).

**Pharmacopoeias.** In *USNF*.

**USNF 26** (Polacrilin Potassium). The potassium salt of a unifunctional low-cross-linked carboxylic cation-exchange resin prepared from methacrylic acid and divinylbenzene. A white to off-white, free-flowing powder. Has a faint odour or is odourless. Insoluble in water and in most liquids.

## Profile

Polacrilin potassium is used as a tablet and capsule disintegrant.

## Poliglusam (USAN, rINN)

Chitosan; Poliglusumum.

Полиглузам

CAS — 9012-76-4.

## Poliglusam Hydrochloride (rINNM)

Chitosan Hydrochloride; Chitosane, chlorhydrate de; Chitosanhydrochlorid; Chitosani hydrochloridum; Chitozano hydrochloridas; Hidrocloruro de poliglusam; Kitosaanihydrokloridi; Kitosanhydrokloridi; Kitozán-hidroklorid; Poliglusam, Chlorhydrate de; Poliglusami Hydrochloridum.

Полиглузама Гидрохлорид

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

**Ph. Eur. 6.2** (Chitosan Hydrochloride). The chloride salt of an unbranched binary heteropolysaccharide consisting of the two units *N*-acetyl-D-glucosamine and D-glucosamine, obtained by partial deacetylation of chitin, normally leading to a degree of deacetylation of 70.0 to 95.0%. Chitin is extracted from the shells of shrimp and crab. A white or almost white fine powder. Sparingly soluble in water; practically insoluble in alcohol. A 1%

solution in water has a pH of 4.0 to 6.0. Store in airtight containers at a temperature of 2° to 8°. Protect from light.

## Profile

Poliglusam is a polysaccharide composed of polymers of glucosamine and *N*-acetylglucosamine produced by partial deacetylation of chitin. It is manufactured commercially by chemical treatment of crustacean shells. Poliglusam is under investigation as a pharmaceutical excipient for formulations including oral dosage forms and gene carrier systems. It has been used as a dietary supplement in preparations for obesity and hypercholesterolaemia.

## References

- Ylitalo R, *et al.* Cholesterol-lowering properties and safety of chitosan. *Arzneimittelforschung* 2002; **52**: 1–7.
- Jull AB, *et al.* Chitosan for overweight or obesity. Available in The Cochrane Database of Systematic Reviews; Issue 3. Chichester: John Wiley; 2008 (accessed 07/08/08).

## Preparations

**Proprietary Preparations** (details are given in Part 3)

**Arg.:** Chito-Lafamen; **Braz.:** Lipenan†; Magrix; **UK:** Bio Slim Silueta; Formoline LI 12.

**Multi-ingredient:** **Arg.:** ExoFatt†; Redualgas; **Braz.:** Control; **Indon.:** Betaslim; Combes; Kitoles; Vitaslim; **Malaysia:** Chitosan C†; **Port.:** Lipoabsorver†; Lipoforte†; Redusan Plus†; **Singapore:** Chitosano; Colenon.

## Pollen and Pollen Extracts

## Profile

Preparations containing pollen and pollen extracts from various sources have been used as nutritional supplements and in preparations for urological disorders. They are also used for allergen immunotherapy (p.2251).

◇ In common with other products derived from bees, products containing bee pollen may cause serious adverse reactions. Many plant pollens may contribute to bee pollen, including common allergens such as ragweed pollen. For reference to hypersensitivity reactions with bee products, including bee pollen, see under Royal Jelly, p.2382.

## Preparations

**Proprietary Preparations** (details are given in Part 3)

**Arg.:** Cernilton; Polenat; **Austria:** Prostaflon; **Belg.:** Pollinex†; **Canad.:** Pollinex-R; **Cz.:** Grazax; Pollinex; **Fr.:** Pollergon; Prostal; Sodilen; Sthenorex†; **Ger.:** Cernilton; Depot-Hal; Pollinex Quattro; Pollinose S†; Purethal; TA Baume; TA Graser; TA MIX; **Hung.:** Pollstimol; **Jpn.:** Cernilton; **Neth.:** Allergopharma; Allergovit; Pollinex; Purethal; **Norw.:** Alutard; **Pol.:** Allergovit; Catalet; Perosal; Pollinex; **Port.:** Grazax; **S.Afr.:** Allpyral Special Grass; **Switz.:** Adenoprostal†; ALK; Polvac; Prostaflon; Staloral; **UK:** Grazax; Pollinex.

**Multi-ingredient:** **Arg.:** Optimina Plus; PR21; **Braz.:** Multigen AL†; **Fr.:** Pollen Royal†; Propargile; **Ger.:** Pollstimol; Sublivac; **Ital.:** Api Baby; Apistress; Bio-200; Biotrefon Plus; Longevital; Neoplus; Ottovis; Pollingel; Pollingel con Ginkgo Biloba†; Pollingel Ginseng†; **Philipp.:** Jamieson Total Energy; Korgivit-E†; **UK:** Regina Royal Five.

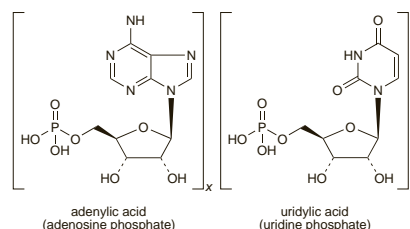
## Poly A.poly U

Poli (A), poli (U); Polyadenylic-polyuridylic Acid.

Поли(А).поли(У)

(C<sub>10</sub>H<sub>14</sub>N<sub>5</sub>O<sub>7</sub>P)<sub>x</sub>.(C<sub>9</sub>H<sub>13</sub>N<sub>2</sub>O<sub>9</sub>P)<sub>x</sub>.

CAS — 24936-38-7.



## Profile

Poly A.poly U is a double-stranded polyribonucleotide comprising polyadenylic and polyuridylic acids, and is believed to be an immunostimulant. It has been studied as an adjuvant in the management of operable solid tumours and in the management of hepatitis B. A complex of potassium polyriboadenylate-potassium polyribouridylylate is used in the treatment of viral eye infections.

## Preparations

**Proprietary Preparations** (details are given in Part 3)

**Rus.:** Poludan (Полудан).

## Poly I.poly C

Poli (I), poli (C); Polyinosinic-polycytidylic Acid.

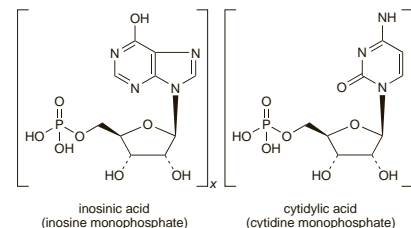
Поли(И).поли(Л)

(C<sub>10</sub>H<sub>13</sub>N<sub>4</sub>O<sub>8</sub>P)<sub>x</sub>.(C<sub>9</sub>H<sub>14</sub>N<sub>3</sub>O<sub>8</sub>P)<sub>x</sub>.

CAS — 24939-03-5.

ATC — L03AX07.

ATC Vet — QL03AX07.



## Profile

Poly I.poly C is a synthetic double-stranded polyribonucleotide complex of equimolar concentrations of polyinosinic and polycytidylic acids, described as a mismatched double-strand RNA. Poly I.poly C and the complex of poly I.poly C stabilised with poly-L-lysine in carmellose [poly(ICLL)] have been found to induce the production of interferon and have been investigated in the treatment of malignant neoplasms and viral infections. In the form of poly I.poly C12U (p.902) it has been investigated for the treatment of AIDS, SARS, avian influenza, chronic fatigue syndrome, renal cell carcinoma, and invasive metastatic melanoma; poly(ICLL) has been investigated for the treatment of primary brain tumours.

## Polysaccharide-K

Polisacárido-K; PSK; PS-K.

Полисахарид-К

## Profile

Polysaccharide-K is a protein-bound polysaccharide isolated from a fungus, *Coriolus versicolor*. It is claimed to have immunostimulant and antineoplastic properties.

## Preparations

**Proprietary Preparations** (details are given in Part 3)

**Jpn.:** Krestin.

## Polytef (USAN)

Politef (pINN); Politefo; Politefum; PTFE. Poly(tetrafluoroethylene).

Политеф

(C<sub>2</sub>F<sub>4</sub>)<sub>n</sub>.

CAS — 9002-84-0.

## Profile

Polytef has numerous industrial applications. As 'Teflon' it is used on 'non-stick' cooking utensils.

A paste of polytef has been used for a variety of purposes including the treatment of aphonia, for replacement grafts in vascular surgery, and in the correction of some forms of urinary incontinence (p.2180). The main concern with these procedures is migration of polytef particles. It has also been applied to the skin as a barrier paste with perfluoroalkylpolyether to reduce exposure to chemical warfare agents.

**Adverse effects.** Brain injury in a child was possibly associated with migration of polytef particles from a periureteral injection performed 1 year earlier.<sup>1</sup> Three cases of polytef adenopathy and one case of giant granuloma have been reported<sup>2</sup> in children who had previously undergone subureteral polytef injection for the treatment of vesicoureteral reflux.

- Borgatti R, *et al.* Brain injury in a healthy child one year after periureteral injection of Teflon. *Pediatrics* 1996; **98**: 290–1.
- Aragona F, *et al.* Polytetrafluoroethylene giant granuloma and adenopathy: long-term complications following subureteral polytetrafluoroethylene injection for the treatment of vesicoureteral reflux in children. *J Urol (Baltimore)* 1997; **158**: 1539–42.

## Uses. References

- Polley JW, *et al.* The use of Teflon in orbital floor reconstruction following blunt facial trauma: a 20-year experience. *Plast Reconstr Surg* 1987; **79**: 39–43.
- Puri P. Endoscopic correction of primary vesicoureteric reflux by subureteric injection of polytetrafluoroethylene. *Lancet* 1990; **335**: 1320–2.
- Maskell R, *et al.* Correction of vesicoureteric reflux by endoscopic injection. *Lancet* 1991; **338**: 1460–1.
- Anonymous. Use of Teflon preparations for urinary incontinence and vesicoureteral reflux. *JAMA* 1993; **269**: 2975–80.
- Duckett JRA. The use of periurethral injectables in the treatment of genuine stress incontinence. *Br J Obstet Gynaecol* 1998; **105**: 390–6.
- Su TH, *et al.* Injection therapy for stress incontinence in women. *Int Urogynecol J* 1999; **10**: 200–6.