causes an increase in the secretion of pancreatic enzymes and stimulates gallbladder contraction.

Pancreozymin has been used, usually with secretin, as a test for exocrine pancreatic function and in the diagnosis of biliary-tract disorders; these tests generally involved duodenal intubation of the patient and examination of duodenal aspirate. Pancreozymin has also been used as an adjunct to cholecystography. Vasomotor reactions, abdominal discomfort, and hypersensitivity have been reported.

Biliary-tract disorders. It was concluded that cholecystokinin provocation testing was ineffective in predicting which patients with acalculous biliary pain would receive symptomatic relief from cholecystectomy in a study involving 58 patients.[1]

1. Smythe A, *et al*. A requiem for the cholecystokinin provocation test? *Gut* 1998; **43:** 571–4.

Pangamic Acid

Pangámico, ácido.

Profile

The name pangamic acid has been applied variously to gluconic acid 6-[bis(diisopropylamino)acetate] ($C_{20}H_{40}N_2O_8$ = 436.5), gluconic acid, 6-ester with N,N-dimethylglycine ($C_{10}H_{19}NO_8$ = 281.3), gluconic acid, 6-ester with N,N-diisopropylglycine ($C_{14}H_{27}NO_8$ = 337.4), and a substance or mixture of substances isolated from apricot kernels and rice bran. It has also been known as 'vitamin B_{15}' although there is no evidence that pangamic acid is a vitamin. Preparations containing the vasoactive substance di-isopropylammonium dichloroacetate (p.1265) have sometimes been described as pangamic acid or 'vitamin B_{15}'. There is much uncertainty about the identity of products sold in health food stores as 'vitamin B_{15}', pangamic acid, or sodium or calcium pangamate and different brands have been reported to have completely different compositions.

Claims for the activity of pangamic acid as a promotor of tissue oxygenation and its alleged value in numerous disorders have not been substantiated.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: B15†; ***Ger.:*** Oyo†; ***Port.:*** Desfatigan; Pulsor.

Multi-ingredient: ***Mex.:*** B1-12-15; ***Spain:*** Policolinosil.

Panthenol *(BAN, USAN, rINN)*

Pantenol; Panthénol; *dl*-Panthenol; Panthenolum; (±)-Pantothenyl Alcohol.

Пантенол

$C_9H_{19}NO_4$ = 205.3.
CAS — 16485-10-2.

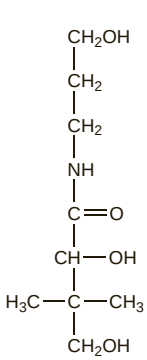
Pharmacopoeias. In *US.*
USP 31 (Panthenol). A racemic mixture of the dextrorotatory and laevorotatory isomers of panthenol. A white to creamy white, crystalline powder with a slight, characteristic odour. Freely soluble in water, in alcohol, and in propylene glycol; soluble in chloroform and in ether; slightly soluble in glycerol. Store in airtight containers.

Dexpanthenol *(BAN, USAN, rINN)*

Dekspantenoli; Dekspantenolis; Dexpantenol; Dexpanthénol; Dexpanthenolum; Dextro-Pantothenyl Alcohol; Pantothenol; Provitamin B_5. (*R*)-2,4-Dihydroxy-*N*-(3-hydroxypropyl)-3,3-dimethylbutyramide.

Декспантенол

$C_9H_{19}NO_4$ = 205.3.
CAS — 81-13-0.
ATC — A11HA30; D03AX03; S01XA12.
ATC Vet — QA11HA30; QD03AX03; QS01XA12.



Pharmacopoeias. In *Eur.* (see p.vii), *US*, and *Viet.*
Ph. Eur. 6.2 (Dexpanthenol). A colourless or slightly yellowish, hygroscopic, viscous liquid, or a white or almost white, crystalline powder. Very soluble in water; freely soluble in alcohol. A 5% solution in water has a pH not greater than 10.5. Store in airtight containers.
USP 31 (Dexpanthenol). A clear, viscous, somewhat hygroscopic liquid, having a slight characteristic odour. Some crystallisation may occur on standing. Freely soluble in water, in alcohol, in methyl alcohol, and in propylene glycol; soluble in chloroform and in ether; slightly soluble in glycerol. Store in airtight containers.

Adverse Effects and Precautions

There have been a few reports of allergic reactions possibly associated with dexpanthenol. Dexpanthenol is contra-indicated in haemophiliacs and in patients with ileus due to mechanical obstruction.

Uses and Administration

Dexpanthenol is the alcoholic analogue of D-pantothenic acid (p.1959). It has been given intramuscularly in doses of 250 to 500 mg to prevent or control gastrointestinal atony but its value has not been established. It has also been given by slow intravenous infusion.

Dexpanthenol and the racemate panthenol have been used topically in strengths of 2 or 5% for the treatment of various minor skin disorders. They are also included in some vitamin preparations.

◊ References.

1. Kehrl W, Sonnemann U. Verbesserung der Wundheilung nach Nasenoperationen durch kombinierte Anwendung von Xylometazolin und Dexpanthenol. *Laryngorhinootologie* 2000; **79:** 151–4.
2. Gehring W, Gloor M. Effect of topically applied dexpanthenol on epidermal barrier function and stratum corneum hydration: results of a human in vivo study. *Arzneimittelforschung* 2000; **50:** 659–63.
3. Ebner F, *et al.* Topical use of dexpanthenol in skin disorders. *Am J Clin Dermatol* 2002; **3:** 427–33.
4. Biro K, *et al*. Efficacy of dexpanthenol in skin protection against irritation: a double-blind, placebo-controlled study. *Contact Dermatitis* 2003; **49:** 80–4.
5. Rockmann H, *et al.* Anaphylaxis after dexpanthenol exposure by multivitamin tablets. *Clin Exp Dermatol* 2005; **30:** 714–16.

Preparations

USP 31: Dexpanthenol Preparation.

Proprietary Preparations (details are given in Part 3)
Arg.: Nutraisdin†; Recugel; ***Austria:*** Bepanthen; Corneregel; Pantothen; ***Braz.:*** Bepantol; Uvless; ***Chile:*** Bepantol; ***Cz.:*** Bepanthen; Panthenol; ***Fin.:*** Bepanthen; ***Fr.:*** Bepanthen; Bepanthene; Pan-Sun; ***Ger.:*** Bepanthen; Corneregel; Marolderm; NasenSpray Panthenol; Nasic-cur; Otriven mit Dexpanthenol; Pan Rhinol; Pan-Ophtal; Panthenol; Panthogenat†; Pelina; Rhinoclir†; Siozwo Sana; Ucee D†; Urupan†; Wund- und Heilsalbe N†; Wund- und Heilcreme N; ***Gr.:*** Corneregel; ***Hung.:*** Bepanthen; Corneregel; Panthenol; ***Indon.:*** Bepanthen; Pasquam; ***Israel:*** Bepanthen; Neocutan; ***Ital.:*** Bepanten; ***Mex.:*** Bepanthen; Corneregel; ***NZ:*** Bepanthen; ***Philipp.:*** Corneregel; ***Pol.:*** Bepanthen; Corneregel; Dermopanten; ***Port.:*** Bepanthene; ***Rus.:*** Bepanthen (Бепантен); Corneregel (Корнерегель); Panthenol (Пантенол); Panthoderm (Пантодерм); ***S.Afr.:*** Bepanthen; Bepantol†; ***Singapore:*** Bepanthen; ***Spain:*** Bepanthene; ***Switz.:*** Bepanthene; ***Turk.:*** Bepanthene; Bepantol; Pantenol; ***UAE:*** Dexipan; ***UK:*** Bepanthen; ***USA:*** Ilopan; Panthoderm; ***Venez.:*** Beducen†.

Multi-ingredient: ***Arg.:*** Dermocridin; Dermvien†; Heduline; Hydratone†; Lociherp Liposomas Vitaminado; Mucobase; Nutraisdin†; Sebulex; Talowin; ***Austral.:*** Macro Natural Vitamin E Cream; Sebirinse; Superfade; ***Austria:*** Beneuran Vit B-Komplex†; Bepanthen; Bepanthen Plus; Colda; Coldistan; Dolobene; Keratosis; Keratosis forte; Oleovit; Panto Liquid; Siccaprotect; Sigman-Haustropfen; Venobene; ***Belg.:*** Algi-Cool; Purigel NF; ***Braz.:*** Capel; Dolobene; Naridrin; Nariflux; Nazobio†; Varizol†; ***Canad.:*** Selsun with Provitamin B †; ***Chile:*** Acnoxyl Shampoo Cabello Graso†; Cicapost; Eucerin Piel Grasa; Panthoderm-A; Pomada Vitaminica; Queratopil; Ureadin Rx DB; Ureadin Rx RD; Vitis Encias Colutorio; Vitis Encias Pasta; ***Cz.:*** Bepanthen Plus; Brand- und Wundgel†; Dolobene; Lipovitan†; Panlid; Siccaprotect; ***Fin.:*** Oftan A-Pant; Pantyson; Wicaran; Wicarba; Wicnevit; ***Fr.:*** Alkagin; Mela'aura; Parogencyl gencives fragilisees†; Tonimer; ***Ger.:*** Bepanthen Antiseptische; Brand- und Wund-Gel Eu Rho†; Dispatenol; Dolobene; Essaven Tri-Complex†; GeloBacin; Hermalind†; Hewekzem novo N; Hydro Cordes; Hylo-Care; Lipo Cordes; Lipovitan†; Mar Plus†; Nasic; PC 30 V; Remederm; Saseem; Siccaprotect; ***Gr.:*** Aquasol A†; Novaquasol-A; ***Hong Kong:*** Dolobene; Mar Plus; Pregnacare; Sebirinse; ***Hung.:*** Alksebor; Aurobin; Bepanthen Plus; Dolobene; Phlogosam; Vipsogal†; ***India:*** Optineuron; Sioneuron; Vitneurin; ***Indon.:*** Romilar; Skintex; ***Israel:*** Bepanthen Plus; Kamil Blue; Neocutan Silver; Panthisone; Pedisol; ***Ital.:*** Alfa Acid; Emazian B12†; Emoantitossina†; Gastrotuss; Keto Z; Leniroset†; Parogencyl; Rinopanteina; ***Malaysia:*** Mar Plus; ***Mex.:*** Bexident Pediatrics†; Cetopic; Emolin Neo; Nutrem; Salilex; ***Neth.:*** Prunacolon; Prunasine; ***NZ:*** Sebirinse; ***Philipp.:*** pHCare; Remederm; Sebo Fluid; ***Pol.:*** Acodin; Alantan-Plus; Bepanthen Plus; Dolobene; ***Port.:*** Bepanthene; Bepanthene Plus; Bexident; Carmitol; Cicapost; Efluvium Anti-seborreico; Lactigriet; Nutraisdin; Ureadin 10 Plus; ***Rus.:*** Aurobin (Ауробин); Bepanthen Plus (Бепантен Плюс); Dolobene (Долобене); Hepatrombin (Гепатромбин); Hylozar-COMOD (Хилозар-КОМОД); Venolife (Венолайф); ***S.Afr.:*** Broncol†; ***Switz.:*** Alphastria; Bepanthene Plus; Carbamide + VAS; Carbamide Creme; Cortimycine; Demostan N; Dermacalm-d; Dolobene; Galamila; Gorgonium; Hepathrombine†; Lenidерm†; Lyman; Nose Fresh au D-panthenol; Osa Gel de dentition; Parapic; Pelsano; Pigmanorm; Remexal; Siccalix; Siccaprotect; Sportium; Sportusal; Sportusal Spray sine heparino; Stilex; Tendro; Turexan Capilla; Turexan Lotion; Unathene; Unatol; Venucreme; Venugel; Wulnasin; ***Thai.:*** Mar Plus; Romilar; ***Turk.:*** Bepanthene Plus; Pantenol Plus; Siccaprotect; Stilex; ***UK:*** Oilatum Scalp Intensive; Uvistat Eye Drops; Vipsogal; ***Venez.:*** Cepin; Diadex; Pantonic; Viteno†.

Papain

Papaína; Papaina; Papayotin.
CAS — 9001-73-4.

Pharmacopoeias. In *US.*
USP 31 (Papain). A purified proteolytic substance derived from *Carica papaya* (Caricaceae). It contains not less than 6000 USP units per mg. A white to light tan, amorphous powder. Soluble in water, the solution being colourless to light yellow and more or less opalescent; practically insoluble in alcohol, in chloroform, and in ether. pH of a 2% solution in water is between 4.8 and 6.2. Store in airtight containers at a temperature of 8° to 15°. Protect from light.

Units

USP 31 defines the USP unit of papain activity as the activity that releases the equivalent of 1 microgram of tyrosine from a specified casein substrate under the conditions of the assay, using the enzyme concentration that liberates 40 micrograms of tyrosine per mL of test solution.

One FIP unit of papain is defined as the enzyme activity which under specified conditions hydrolyses 1 micromol of *N*-benzoyl-L-arginine ethyl ester per minute.

The Warner-Chilcott unit, based on the quantity of enzyme required to clot 2.64 microlitre of milk substrate in 2 minutes at 40°, under specified conditions, has also been used for papain.

Adverse Effects

Hypersensitivity reactions have occurred.

Effects on the eyes. Ocular and periorbital angioedema occurring within 4 hours of use of a contact lens cleansing solution containing papain has been reported.[1]

1. Bernstein DI, *et al*. Local ocular anaphylaxis to papain enzyme contained in a contact lens cleansing solution. *J Allergy Clin Immunol* 1984; **74:** 258–60.

Oesophageal perforation. Extensive destruction of the oesophageal wall, with perforation, resulted from the use of a papain suspension given to treat an obstruction caused by impacted meat.[1] The patient had been given 1.2 g of papain over a 12-hour period. Ten days after a thoracotomy, the descending thoracic aorta ruptured, and she died from haemorrhage.

1. Holsinger JW, *et al*. Esophageal perforation following meat impaction and papain ingestion. *JAMA* 1968; **204:** 734–5.

Uses and Administration

Papain consists chiefly of a mixture of papain and chymopapain, proteolytic enzymes that hydrolyse polypeptides, amides, and esters, especially at bonds involving basic amino acids, or leucine or glycine, yielding peptides of lower molecular weight. It is used with urea as a topical debriding agent. It is also used for the removal of protein deposits from the surface of soft contact lenses (p.1622).

Preparations of papain, alone or combined with antibacterial agents and/or other substances, have been taken orally for their supposed anti-inflammatory properties, and it has also been used as an ingredient of various mixtures claimed to aid digestion.

Papain is widely used as a meat tenderiser and in the clarification of beverages.

Malignant neoplasms. Papain has been included in proteolytic enzyme preparations used in oncology to reduce the adverse effects of chemotherapy and radiotherapy. Although the number of clinical studies on which to judge efficacy is limited, a review[1] of such studies suggested that systemic enzyme therapy might be beneficial. Clinical studies have used a preparation containing papain, trypsin, and chymotrypsin in a weight ratio of 5:2:2, and the beneficial effect seems to be based on its anti-inflammatory potential.

1. Leipner J, Saller R. Systemic enzyme therapy in oncology: effect and mode of action. *Drugs* 2000; **59:** 769–80.

Preparations

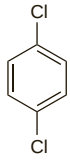
USP 31: Papain Tablets for Topical Solution.

Proprietary Preparations (details are given in Part 3)
Arg.: Tromasin†; ***Austral.:*** Hydrocare Enzymatic Protein Remover†; Stop Itch; ***Canad.:*** Solarcaine Stop Itch; Stop Itch†; ***Chile:*** Papenzima; ***Ger.:*** Vermizym†; ***Hong Kong:*** Eurolase; ***Malaysia:*** Beazyme; ***NZ:*** Stop Itch; ***USA:*** Allergan Enzymatic; ProFree.

Multi-ingredient: ***Arg.:*** Butimerin; Docechol; Homocisteon Compuesto; Opoenterol†; Pankreon Total; Solustres; Tromasin con Aspirina†; Vulnofilin Compuesto†; ***Austral.:*** Betaine Digestive Aid; Bio-Disc; Bioglan Discone†; Digestaid; Digestive Aid; Enzyme; Prost-1†; Prozyme†; ***Austria:*** Rennie Digestif; Wobe-Mugos; Wobenzym; ***Belg.:*** Digestomen; ***Braz.:*** Filogaster†; ***Cz.:*** Digestif Rennie; Wobe-Mugos†; Wobenzym; ***Ger.:*** Arbuzt; Enzym-Wied†; Mulsal N†; Wobe-Mugos E†; Wobenzym N; ***Gr.:*** Lysopaine; Sopain-Plus; ***Hong Kong:*** Digezym; ***Hung.:*** Digestif Rennie; ***India:*** Bestozyme; Catazyme-P; Dipep; Molzyme†; Neopeptine; Nutrozyme; Papytazyme; Unienzyme; ***Indon.:*** Papaven; ***Ital.:*** Digestopan†; ***Malaysia:*** Pepfiz; ***Mex.:*** Dermobion†; Digenor Plus; Wobe-Mugos; Wobenzym; ***Pol.:*** Caridент; ***Port.:*** Caroid†; ***Rus.:*** Pepfiz (Пепфиз); Wobe-Mugos E (Вобэ-Муос Е); Wobenzym (Вобэнзим); ***Singapore:*** Stop-Itch Plus; ***Spain:*** Digestomen Complex; Lizipaina; ***Switz.:*** Lysopaine; ***Thai.:*** Papytazyme†; Pepfiz; Pepsitase; Polyenzyme-I; ***UK:*** Enzyme Digest; Herbal Indigestion Naturtabs; Indigestion and Flatulence; ***USA:*** Accuzyme; AllanEnzyme; AllanfillEnzyme; Ethezyme; Gladase; Gladase-C; Kovia; Panafil; Panafil-White; Pap-Urea; Papaya Enzyme; Ziox; ***Venez.:*** Enzima de Lechoza†; Wobenzym N.

Paradichlorobenzene

Dichlorbenzol; Paradiclorobenceno. 1,4-Dichlorobenzene.
$C_6H_4Cl_2$ = 147.0.
CAS — 106-46-7.



Profile

Paradichlorobenzene has general properties similar to those of orthodichlorobenzene (see p.2358) but is considered to be less toxic. It is present in several preparations intended for the removal of ear wax (see p.1725). It has been used as a furniture preservative and in mothballs and lavatory deodorant blocks. Abuse of preparations containing paradichlorobenzene has been reported.

Abuse. Neurocutaneous symptoms have been reported[1] in 2 18-year-old twin girls after abuse of mothballs by inhaling the fumes, and in one twin, also chewing the mothballs. Once they stopped, both sisters recovered completely within 3 to 6 months depending on their previous level of abuse.

1. Feuillet L, *et al.* Twin girls with neurocutaneous symptoms caused by mothball intoxication. *N Engl J Med* 2006; **355:** 423–4.

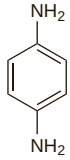
Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Austral.:*** Cerumol; ***Canad.:*** Cerumol; ***India:*** Clearwax; Waxolve; ***Irl.:*** Cerumol; ***Israel:*** Cerumol; ***Malaysia:*** Cerumol; ***Port.:*** Otoceril; ***S.Afr.:*** Cerumol; ***Singapore:*** Cerumol; ***Switz.:*** Cerumenol; ***UK:*** Cerumol.

Paraphenylenediamine

Parafenilendiamina. *p*-Phenylenediamine; 1,4-Benzenediamine.
$C_6H_4(NH_2)_2$ = 108.1.
CAS — 106-50-3.



NOTE. Commonly known in the hairdressing trade as *'para'*. 'PPD' is an abbreviation sometimes used for paraphenylenediamine, which should not be confused with tuberculin purified protein derivative (see Tuberculins, p.2405), which is also referred to by the same abbreviation.

Profile

Paraphenylenediamine is widely used in permanent hair colour preparations. However it is a potent contact allergen and EU legislation restricts its concentration in the finished product to a maximum of 6% calculated as free base. Both type I and type II reactions occur and symptoms usually present as dermatitis on the face or hands. More severe reactions can lead to angioedema; anaphylaxis has also been reported. Systemic symptoms similar to those after ingestion (see below) may also occur following absorption through intact skin. For references to hypersensitivity after skin tattoos with henna that was adulterated with paraphenylenediamine, see p.2318.

Application of tints to the eyelashes or eyebrows may produce blepharoconjunctivitis, eye oedema, and eye pain, with progression to facial oedema and dermatitis, lachrymation, photophobia, uveitis, and keratitis in severe cases. Corneal necrosis has led to blindness. In some countries, use of paraphenylenediamine in eyelash or eyebrow tints is not permitted.

Early symptoms after ingestion of paraphenylenediamine are vomiting and abdominal pain. Severe oedema of the face and oropharynx can lead to life-threatening obstruction of the airways. Other symptoms may include hypotension or hypertension, tachycardia, hepatotoxicity, renal failure, metabolic acidosis, methaemoglobinaemia, rhabdomyolysis, tremor, convulsions, and coma; multisystem failure may be fatal.

Some studies have linked hair dyes with mutagenicity and carcinogenicity, although such findings have often been refuted. In Europe, EU legislation carefully controls which substances may be safely used in hair dye products.

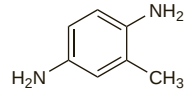
Paraphenylenediamine is also used in the textile and photographic industries.

Adverse effects. References.

1. Ashraf W, *et al.* Systemic paraphenylenediamine (PPD) poisoning: a case report and review. *Hum Exp Toxicol* 1994; **13:** 167–70.
2. Lifshits M, *et al.* Fatal paraphenylenediamine (hair dye) intoxication in a child resembling Ludwig's angina. *J Toxicol Clin Toxicol* 1993; **31:** 653–6.
3. Anuradha S, *et al.* Acute renal failure following para-phenylenediamine (PPD) poisoning: a case report and review. *Ren Fail* 2004; **26:** 329–32.
4. Kallel H, *et al.* Clinical manifestations of systemic paraphenylene diamine intoxication. *J Nephrol* 2005; **18:** 308–11.
5. Sosted H, *et al.* Severe allergic hair dye reactions in 8 children. *Contact Dermatitis* 2006; **54:** 87–91.
6. Brahmi N, *et al.* Acute myocarditis and myocardial infarction induced by paraphenylenediamine poisoning. Interest of angiocoronarography. *Int J Cardiol* 2006; **113:** E93–E95.
7. Teixeira M, *et al.* Contact allergy to para-phenylenediamine in a permanent eyelash dye. *Contact Dermatitis* 2006; **55:** 92–4.
8. Patel S, *et al.* Patch test frequency to *p*-phenylenediamine: follow up over the last 6 years. *Contact Dermatitis* 2007; **56:** 35–7.

Paratoluenediamine

Paratoluendiamina. 2-Methyl-1,4-phenylenediamine.
$C_7H_{10}N_2$ = 122.2.
CAS — 95-70-5.



Profile

Paratoluenediamine is used in hair colour preparations.

Like paraphenylenediamine, above, paratoluenediamine may be associated with sensitivity reactions.

Parsley

Perejil; Persil; Persil, racine de (parsley root); Petersilie; Petroselini radix (parsley root); Petroselinum; Petrželový kořen (parsley root).

Profile

Parsley (*Petroselinum crispum*, Umbelliferae) is used in herbal medicine, where it is mainly given as a diuretic. It is also used as a culinary herb and flavouring.

Parsley oil has been used in aromatherapy.

Preparations

Proprietary Preparations (details are given in Part 3)
UK: Odo-fre.

Multi-ingredient: ***Arg.:*** Alofresh†; Water Pill c Potasio†; ***Austral.:*** Extralife Fluid-Care; Medinat PMT-Eze†; Odourless Garlic; Uva-Ursi Plus†; ***Canad.:*** Herbal Diuretic; Herbal Throat†; ***Cz.:*** Species Diureticae Planta†; Species Urologicae Planta; Urologicka Cajova Smes; ***Fr.:*** Oropur; ***Ger.:*** Asparagus-P; nephro-loges; ***Malaysia:*** Total Man†; ***Rus.:*** Herbion Urological Drops (Гербион Урологические Капли); ***UK:*** Athera; Fre-bre; Mixed Vegetable Tablets; Modern Herbals Menopause.

Parsley Piert

Alchémille des Champs; Alquimila arvense; Aphanes; Gewöhnlicher Acker-Frauenmantel.

Profile

Parsley piert, the aerial parts of *Aphanes arvensis* (*Alchemilla arvensis*) (Rosaceae) has astringent, diuretic, and demulcent properties. It is used for urinary-tract disorders, including renal and urinary calculi.

Preparations

Proprietary Preparations (details are given in Part 3)
Cz.: Kontryhelova Nat.

Multi-ingredient: ***Austral.:*** Profluid†; Protemp†; ***Canad.:*** Swiss Herb Cough Drops; ***Cz.:*** Fytokliman Planta; Gynastan†; ***Fr.:*** Gonaxine; ***UK:*** Backache Relief; Diuretabs; HRI Water Balance; Watershed.

Passion Flower

Golgotavirág hajtásvég; Grenadille; Kärsimyskukka; May-pop; Mučenková nať; Pasiflora; Pasiflorų žolė; Pasionari; Passiflora; Passiflorae herba; Passiflore; Passionsblomma.

Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Passion Flower). The fragmented or cut, dried aerial parts of *Passiflora incarnata*; it may also contain flowers and/or fruits. It contains not less than 1.5% of total flavonoids expressed as vitexin ($C_{21}H_{20}O_{10}$ = 432.4), calculated with reference to the dried drug. Protect from light.

Profile

Passion flower is reputed to have antispasmodic and sedative properties and has been used as an ingredient of herbal remedies, chiefly in the form of a liquid extract tincture.

Homoeopathy. Passion flower has been used in homoeopathic medicines under the following names: Passiflora incarnata; Passi. in.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Sedante Noche; ***Austria:*** Passiflorin; ***Belg.:*** Sedanxio; ***Ger.:*** Hoggar Balance; Kytta-Sedativum fur den Tag; Passidon; Passiflora Curarina; ***Pol.:*** Passiflor; ***Rus.:*** Novo-Passit (Ново-Пассит); ***Switz.:*** Passelyt; Plantival Mono†; ***Turk.:*** Alora; ***UK:*** Modern Herbals Sleep Aid; Natracalm; Naturest; Nodoff; Phytocalm; ***Venez.:*** Floral Pas.

Multi-ingredient: ***Arg.:*** Armonil; Calmtabs†; Herbaccion Sedante†; Insomnal†; Nervocalm; No-Nervio‖†; Passacanthine†; SDN 200; Sedanat; Sedante Arceli†; Sedante Dia; Serenil; Sigmasedan; Top Life Relax†; Yerba Diet; ***Austral.:*** Calm; Calmo; Euphorbia Complex; Executive B; Extralife Sleep-Care; Goodnight Formula†; Herbal Anxiety Formula†; Humulus Compound; Lifesystem Herbal Plus Formula 2 Valerian†; Multi-Vitamin Day & Night†; Natural Deep Sleep; Nervatona Calm; Nervatona Focus; Pacifenity†; Passiflora Complex†; Passionflower Plus; Proesten†; Prosed-X†; Relaxaplex†; Valerian Plus Herbal Plus Formula 12†; ***Austria:*** Nervenruh; Passedan; Passelyt; Sedogelat; Wechseltee St Severin; ***Belg.:*** Sedinal; Seneuval; ***Braz.:*** A Saude da Mulher; Anevrase†; Benzomel†; Bronquiogem; Calman; Calmapax; Calmazin†; Calmiplan; Composto Emagrecedor†; Elixir de Passiflora†; Emagrevit†; Floriny; Gotas Nican†; Pasalix; Pasic; Passaneuro; Passi Catha†; Passicalm†; Passiflora Composta†; Passiflorine; Passilex†; Sedalin†; Serenus; Sominex; Vagostesyl; ***Canad.:*** Herbal Sleep Well†; Natural HRT Nightime; Relax and Sleep; ***Chile:*** Armonyl; Recalm; ***Cz.:*** Bio-Strath†; Novo-Passit; Passedan; Visinal†; ***Fr.:*** Anxoral†; Biocarde; Euphytose; Mediflor Tisane Calmante Troubles du Sommeil No 14; Natudor; Neuroflorine; Nocvalene†; Panxeol; Passiflorine; Passinevryl; Phytocalm†; Sedatif Tiber; Sympaneurol; Sympavagol; ***Ger.:*** Biosedon†; Dormo-Sem†; Dormoverlan; Dr. Scheffler Bergischer Krautertee Nerven- und Beruhigungstee; Gutnacht†; Habstal-Nerv N†; Hyposedon N†; Kytta-Sedativum; Moradorm S; Nervendragees†; Nervinfant N†; Nervoregin forte†; Nervoregin phyto; Neurapas; Passin; Phytonoctu; Presselin Nerven K I N†; Pronervon Phyto; RubieSed†; Seda-Plantina†; Sedinfant N†; Somnuvis S†; Tornix; Valeriana mild†; Vivinox Day; ***Hong Kong:*** Epizon†; ***Indon.:*** Slip-iZZZ; ***Israel:*** Calmanervin; Nerven-Dragees; Passiflora; Passiflora Compound; ***Ital.:*** Actenacol; Anevrasi; Biocalm; Calmason; Controller; Dormil; Fitosonno; Noctis; Parvisedil; Passiflorine; Reve; Sedatol; Sedofit; Sedopuer F; Val-Plus†; ***Malaysia:*** Cleansa Plus†; ***Mex.:*** Ifupasil; Pasinordin; ***Pol.:*** Nervendragees; Nerwonal; Passibil; Passispasmin; Passispasmol; Psychotonisol; Valused; ***Port.:*** Gabisedil†; Neurocardol†; Valesono†; ***S.Afr.:*** Avena Sativa Comp; Biral; ***Spain:*** Passiflorine; Sedasor†; Sedonat; Sonofit†; Valdispert Complex; ***Switz.:*** Circulan; Dicalm†; Dragees antirhumatismales; Dragees pour la detente nerveuse; Dragees pour le coeur et les nerfs; Gouttes pour le coeur et les nerfs Concentrees†; Phytomed Cardio; Phytomed Nervo†; Phytomed Somni†; Relaxane; Relaxo; Sirop Passi-Par†; Soporin; Strath Gouttes pour le coeur; Strath Gouttes pour le nerfs et contre l'insomnie; Tisane antirhumatismale; Tisane calmante pour les enfants; Tisane relaxante N†; Valverde Coeur; Valverde Detente dragees; ***UK:*** Anased; Avena Sativa Comp; Bio-Strath Valerian Formula; Daily Tension & Strain Relief; Gerard House Serenity; Herbal Pain Relief; HRI Night; Kalms Sleep; Modern Herbals Stress; Niteherb Plus; Nodoff; Nytol Herbal; PMT Formula; Quiet Life; Quiet Nite; Quiet Tyme; Relax B ; Slumber; Sominex Herbal; SuNerven; ***Venez.:*** Cratex†; Equaliv; Eufytose†; Lupassin; Pasidor; Pasifluidina; Passiflorum; Rendetil; Sedival.

Patchouli

Profile

Patchouli (*Pogostemon cablin*, Lamiaceae) is the source of patchouli oil, which is distilled from the dried leaves and young shoots. Patchouli oil is used in aromatherapy.

In traditional Chinese medicine the dried aerial part is known as Guang Huo Xiang.

Homoeopathy. Patchouli oil has been used in homoeopathic medicines.

Patent Blue V

Acid Blue 3; Azul Patente V; CI Food Blue 5; Colour Index No. 42051; E131. Calcium α-(4-diethylaminophenyl)-α-(4-diethyliminiocyclohexa-2,5-dienylidene)-5-hydroxytoluene-2,4-disulphonate.
$(C_{27}H_{31}N_2O_7S_2)_2Ca$ = 1159.4.
CAS — 3536-49-0.

NOTE. The name Patent Blue V is also used as a synonym for Sulphan Blue (CI No. 42045) (see p.2394).

Pharmacopoeias. In *Fr.*

Adverse Effects and Precautions

Hypersensitivity reactions may occur immediately or a few minutes after injection of patent blue V; on rare occasions they may be severe and include shock, dyspnoea, laryngeal spasm, and oedema. Nausea, hypotension, and tremor have been reported.

Giving a small dose to test for hypersensitivity has been suggested.

Hypersensitivity. An urticarial rash occurred in a 5-year-old girl after use of tablets containing patent blue V to disclose the presence of dental plaque.[1] Severe anaphylactic reactions, including shock, have been reported.[2-5]

1. Chadwick BL, *et al.* Allergic reaction to the food dye patent blue. *Br Dent J* 1990; **168:** 386–7.
2. Woltsche-Kahr I, *et al.* Anaphylactic shock following peritumoral injection of patent blue in sentinel lymph node biopsy procedure. *Eur J Surg Oncol* 2000; **26:** 313–14.
3. Adverse Drug Reactions Advisory Committee (ADRAC). Patent blue V and anaphylaxis. *Aust Adverse Drug React Bull* 2002; **21:** 10. Also available at: http://www.tga.health.gov.au/adr/aadrb/aadr0208.htm (accessed 02/07/04)
4. Wöhrl S, *et al.* Near-fatal anaphylaxis to patent blue V. *Br J Dermatol* 2004; **150:** 1037–8.
5. Dewachter P, *et al.* Anaphylactic reaction to patent blue V after sentinel lymph node biopsy. *Acta Anaesthesiol Scand* 2006; **50:** 245–7.