sopressin in upper gastrointestinal variceal haemorrhage, see below.

1. Schulz KF, *et al.* Vasopressin reduces blood loss from second-trimester dilatation and evacuation abortion. *Lancet* 1985; **ii:** 353–6.
2. Lurie S, *et al.* Subendometrial vasopressin to control intractable placental bleeding. *Lancet* 1997; **349:** 698.
3. Noseworthy TW, Anderson BJ. Massive hemoptysis. *Can Med Assoc J* 1986; **135:** 1097–9.
4. Bilton D, *et al.* Life threatening haemoptysis in cystic fibrosis: an alternative therapeutic approach. *Thorax* 1990; **45:** 975–6. Correction. *ibid.* 1991; **46:** 274.
5. Darcy M. Treatment of lower gastrointestinal bleeding: vasopressin infusion versus embolization. *J Vasc Interv Radiol* 2003; **14:** 535–43.

Nocturnal enuresis. For references to the use of the vasopressin analogue, desmopressin, in nocturnal enuresis, see p.2187.

Shock. Argipressin has been reported to have beneficial vasopressor effects in the management of shock (p.1183) due to vasodilatation. It has been given by continuous intravenous infusion at a dose of about 2 to 6 units/hour as supplemental therapy in patients who could not be adequately managed with conventional vasopressor therapy.[1,2] In a retrospective study[3] vasopressin given with or without catecholamines for haemodynamic support of shock did not increase the incidence of venous thromboembolism compared with catecholamines given alone. Further reports[4,5] of the benefit of vasopressin in septic shock suggest that it may be of value in reducing doses of catecholamine vasopressors.

1. Dünser MW, *et al.* Management of vasodilatory shock: defining the role of arginine vasopressin. *Drugs* 2003; **63:** 237–56.
2. Dünser MW, *et al.* Arginine vasopressin in advanced vasodilatory shock: a prospective, randomized, controlled study. *Circulation* 2003; **107:** 2313–19.
3. Doepker BA, *et al.* Thromboembolic events during continuous vasopressin infusions: a retrospective evaluation. *Ann Pharmacother* 2007; **41:** 1383–9.
4. Obritsch MD, *et al.* Effects of continuous vasopressin infusion in patients with septic shock. *Ann Pharmacother* 2004; **38:** 1117–22.
5. Szumita PM, *et al.* Vasopressin for vasopressor-dependent septic shock. *Am J Health-Syst Pharm* 2005; **62:** 1931–6.

Variceal haemorrhage. Vasopressin has been widely used to control bleeding from oesophageal varices, as discussed under Monoethanolamine, on p.2346. However, terlipressin, and more recently octreotide, have been found to have some advantages over vasopressin, including bolus dosage and fewer adverse effects, and octreotide is increasingly preferred for this purpose. Glyceryl trinitrate has been given with the aim of counteracting the adverse cardiac effects of vasopressin while potentiating its beneficial effects on portal pressure.[1-4]

1. Stump DL, Hardin TC. The use of vasopressin in the treatment of upper gastrointestinal haemorrhage. *Drugs* 1990; **39:** 38–53.
2. Williams SGJ, Westaby D. Management of variceal haemorrhage. *BMJ* 1994; **308:** 1213–17.
3. Sung JJY. Non-surgical treatment of variceal haemorrhage. *Br J Hosp Med* 1997; **57:** 162–6.
4. McCormack G, McCormack PA. A practical guide to the management of oesophageal varices. *Drugs* 1999; **57:** 327–35.

Preparations

USP 31: Lypressin Nasal Solution; Vasopressin Injection.

Proprietary Preparations (details are given in Part 3)
Austral.: Pitressin; ***Canad.:*** Pressyn; ***Ger.:*** Pitressin†; ***Gr.:*** Pitressin†; ***Irl.:*** Pitressin; ***NZ:*** Pitressin; ***UK:*** Pitressin; ***USA:*** Pitressin.

Used as an adjunct in: ***Thai.:*** Neo-Lidocaton†.

Vegetable Fatty Oils

Kasvirasvaöljyt; Olea Herbaria; Oljor, feta, vegetabiliska.

Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Vegetable Fatty Oils). Vegetable fatty oils are mainly solid or liquid triglycerides of fatty acids that may contain small amounts of other lipids such as waxes, free fatty acids, partial glycerides, or unsaponifiable matters. They are obtained from the seeds or fruits of plants by expression and/or solvent extraction, and may then be refined or hydrogenated with the addition of a suitable antoxidant if necessary. The following are defined:

- *virgin oil*: the oil obtained from raw materials of special quality by mechanical procedures such as cold expression or centrifugation.
- *refined oil*: the oil obtained by expression and/or solvent extraction, and subsequently, either alkali refining (followed by bleaching and deodorisation) or physical refining.
- *hydrogenated oil*: an oil obtained by expression and/or solvent extraction, and subsequently, either alkali refining or physical refining, then possible bleaching, followed by drying, hydrogenation, and subsequently bleaching and deodorisation.

Only phosphoric acid and alkali refined oils may be used in the preparation of parenteral dosage forms.

Hydrogenated Vegetable Oil

Aceite vegetal hidrogenado.

Pharmacopoeias. In *Br. Jpn* allows under the title Hydrogenated Oil a product from fish, other animals or vegetables. Also in *USNF*.
BP 2008 (Hydrogenated Vegetable Oil). A mixture of triglycerides of fatty acids of vegetable origin. An almost white, fine powder at room temperature and a pale yellow, oily liquid above its m.p. of 57° to 70°. Practically insoluble in water; soluble in chloroform, in hot isopropyl alcohol, and in petroleum spirit. Store at a temperature of 8° to 25°.
USNF 26 (Hydrogenated Vegetable Oil). Type 1 Hydrogenated Vegetable Oil occurs as a fine, white powder, beads, or small flakes; m.p. 57° to 85°. Type 2 Hydrogenated Vegetable Oil occurs as a plastic (semi-solid) or flakes, having a softer consistency than Type 1; m.p. 20° to 50°.
Insoluble in water; soluble in chloroform, in hot isopropyl alcohol, and in petroleum spirit. Store in airtight containers at a temperature of 8° to 15°.

Profile

Vegetable fatty oils are generally solid or liquid triglycerides of fatty acids that may contain small amounts of other lipids. They are obtained from the seeds or fruits of plants by expression and/or solvent extraction, and may then be refined or hydrogenated with the addition of a suitable antoxidant if necessary. They are fixed oils (expressed oils) and do not evaporate on warming as opposed to essential oils (ethereal oils, volatile oils), which evaporate readily and are usually obtained from their aromatic plant source by distillation. Some fixed vegetable oils are used to modify the consistency of ointments and for their emollient properties. They have also been used as vehicles for fat-soluble substances such as vitamins.

Hydrogenated vegetable oil is refined, bleached, hydrogenated, and deodorised vegetable oil stearins consisting mainly of the triglycerides of stearic and palmitic acids. It is used as a tablet lubricant and as an ointment or suppository basis.

Preparations

Proprietary Preparations (details are given in Part 3)
Spain: Blodex†.

Veratrine

Veratriini; Veratrin; Veratrina; Veratrinum.
CAS — 8051-02-3 (veratrine mixture); 71-62-5 (veratrine amorphous); 62-59-9 (veratrine crystallised, cevadine).

Description. Veratrine is a mixture of alkaloids from the dried ripe seeds of *Schoenocaulon officinale* (Liliaceae) (sabadilla). Veratrine should be distinguished from protoveratrines obtained from veratrum.

Adverse Effects, Treatment, and Precautions

Veratrine resembles aconite (p.2246) in its action on the peripheral nerve endings and poisoning should be treated similarly. It is an intense local irritant and has a powerful direct stimulating action on all muscle tissues. It has a violent irritant action on mucous membranes, even in minute doses, and must be handled with great care. When ingested it causes violent vomiting, purging, an intense burning sensation in the mouth and throat, and general muscular weakness.

Uses and Administration

Veratrine should not be used internally. It was formerly applied externally for its analgesic properties and as a parasiticide, especially for head lice, but even when used in this way there is danger of systemic poisoning from absorption.

Green Veratrum

American Hellebore; American Veratrum; Eléboro verde; Green Hellebore; Green Hellebore Rhizome; Veratro Verde; Veratrum Viride.
CAS — 8002-39-9.
ATC — C02KA01.
ATC Vet — QC02KA01.

Description. Green veratrum consists of the dried rhizome and roots of *Veratrum viride* (Liliaceae) from which are derived the alkaloidal mixtures alkavervir and cryptenamine.

White Veratrum

Eléboro blanco; European Hellebore; Veratrum Album; White Hellebore; White Hellebore Rhizome.
ATC — C02KA01.
ATC Vet — QC02KA01.

Description. White veratrum consists of the dried rhizome and roots of *Veratrum album* (Liliaceae) from which are derived the alkaloids protoveratrine A and B.

Adverse Effects

Veratrum alkaloids may cause nausea and vomiting at conventional therapeutic doses. Other adverse effects include epigastric and substernal burning, sweating, mental confusion, bradycardia or cardiac arrhythmias, dizziness, and hiccup. Profound hypotension and respiratory depression can occur at high doses.

Sneezing powder. Various symptoms of intoxication occurred in 7 patients due to the use of a sneezing powder containing white veratrum alkaloids.[1]

1. Fogh A, *et al.* Veratrum alkaloids in sneezing-powder: a potential danger. *J Toxicol Clin Toxicol* 1983; **20:** 175–9.

Treatment of Adverse Effects

After oral ingestion of veratrum alkaloids the stomach should be emptied by aspiration and lavage; activated charcoal may be considered within 1 hour of ingestion. Excessive hypotension with bradycardia or cardiac arrhythmias can be treated with atropine. The patient should be placed in a supine position with the feet raised.

Uses and Administration

White and green veratrum contain a number of pharmacologically active alkaloids that produce centrally mediated peripheral vasodilatation and bradycardia. They have been used in the treatment of hypertension but are generally considered to produce an unacceptably high incidence of adverse effects and have largely been replaced by less toxic antihypertensives.
Both green and white veratrum have also been used as insecticides.
Homoeopathy. White Veratrum has been used in homoeopathic medicines under the following names: Veratrum album; Ver. alb.

Verbascum

Aaron's Rod (*Verbascum thapsus*); Bouillon Blanc; Bouillon blanc, fleur de (mullein flower); Diviznový květ (mullein flower); Great Mullein (*Verbascum thapsus*); Kungsljusblomma (mullein flower); Mullein; Ökörfarkkoró virág (mullein flower); Orange Mullein (*Verbascum phlomoides*); Tūbių žiedai (mullein flower); Ukontulikukankukka (mullein flower); Verbasci flos (mullein flower); Wollblumen.

NOTE. The name Aaron's Rod has been applied to a number of plants including *V. densiflorum*, *Solidago* spp., and *Sempervivum tectorum*.

Pharmacopoeias. *Eur.* (see p.vii) includes the dried flowers.
Ph. Eur. 6.2 (Mullein Flower; Verbasci flos). The dried flowers, reduced to the corolla and the androecium, of *Verbascum thapsus*, *V. densiflorum*, and *V. phlomoides*. Store in airtight containers.

Profile

Verbascum flower is an ingredient of herbal remedies for cough and cold symptoms. The dried leaves and stems have also been used.

Preparations

Proprietary Preparations (details are given in Part 3)
Ger.: Eres N†; ***Pol.:*** Noverban.

Multi-ingredient: ***Austral.:*** Procold†; Verbascum Complex†; ***Austria:*** Brust- und Hustentee St Severin; ***Cz.:*** Naturland Grosser Swedenbitter†; Species Pectorales Planta; ***Fr.:*** Detoxell; ***Ger.:*** Equisil N; Hevertopect N†; ***Mex.:*** Bronkitose Mielimon; ***Pol.:*** Flegatussin; Gwajatussin; Termasil; ***Rus.:*** Original Grosser Bittner Balsam (Оригинальный Большой Бальзам Биттнера); ***Spain:*** Bronpul†; Natusor Broncopul†.

Verbenone

Werbenon. 2-Pinen-4-one; 4,6,6-Trimethylbicyclo[3.1.1]hept-3-en-2-one.
$C_{10}H_{14}O$ = 150.2.
CAS — 80-57-9 (verbenone); 18309-32-5 (d-verbenone); 1196-01-6 (l-verbenone).
ATC Vet — QR05CA11 (L-verbenone).

Profile

Verbenone is a terpene found in lemon-verbena oil, rosemary oil (p.2381) and some other essential oils. It has been used, sometimes with pine oil, for respiratory disorders.
Verbenone has also been used as an insect repellent in forestry.

Preparations

Proprietary Preparations (details are given in Part 3)
Ital.: Ozopulmin; Ozopulmin G.

Multi-ingredient: ***Ital.:*** Ozopulmin; Ozopulmin G.

Vervain

Herba Columbariae; Herba Verbenae; Shop Vervain Wort; Verbena; Verveine Officinale.

Pharmacopoeias. In *Chin.* and *Eur.* (see p.vii).
Ph. Eur. 6.2 (Verbena Herb). The whole or fragmented, dried aerial parts of *Verbena officinalis* collected during flowering. It contains a minimum of 15% of verbenalin ($C_{17}H_{24}O_{10}$ = 388.4) calculated with reference to the dried drug.

Profile

Vervain, the aerial parts of *Verbena officinalis* (Verbenaceae), has been used for a wide range of disorders. It is a bitter and has been used for digestive disorders. It also has sedative properties and

has been used for anxiety disorders and as a tonic during convalescence from chronic illness.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Austral.:*** Avena Complex; Calmo; Nevaton; ***Austria:*** Sinupret; ***Cz.:*** Sinupret; Stomatosan†; ***Fr.:*** Calmophytum; Vigilia; ***Ger.:*** Sinupret; ***Hong Kong:*** Sinupret; ***Hung.:*** Sinupret; ***Indon.:*** Sinupret; ***Ital.:*** Neoderma 47; ***Mex.:*** Bisolsinus; ***Philipp.:*** Sinupret; ***Pol.:*** Sinupret; ***Rus.:*** Sinupret (Синупрет); ***Singapore:*** Sinupret; ***Switz.:*** Sinupret; Tisane pour nourissons et enfants; ***Thai.:*** Sinupret; ***UK:*** Athera; HRI Night; Kalms Sleep; Modern Herbals Menopause; Modern Herbals Stress; Newrelax; Period Pain Relief; Prementaid; Scullcap & Gentian Tablets; Stressless; SuNerven.

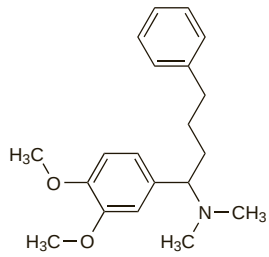
Vetrabutine Hydrochloride *(BANM, rINNM)*

Dimophebumine Hydrochloride; Hidrocloruro de vetrabutina; Sp-281; Vétrabutine, Chlorhydrate de; Vetrabutini Hydrochloridum. *N,N*-Dimethyl-α-(3-phenylpropyl)veratrylamine hydrochloride.

Ветрабутина Гидрохлорид

$C_{20}H_{27}NO_2$,HCl = 349.9.

CAS — 3735-45-3 (vetrabutine); 5974-09-4 (vetrabutine hydrochloride).



(vetrabutine)

Profile

Vetrabutine hydrochloride is used as a uterine relaxant in veterinary medicine.

Vinburnine *(rINN)*

CH-846; (–)-Eburnamonine; 3α,16α-Eburnamonine; Vinburnina; Vinburninum; Vincamone. (3α,16α)-Eburnamenin-14(15*H*)-one.

Винбурнин

$C_{19}H_{22}N_2O$ = 294.4.

CAS — 4880-88-0.

ATC — C04AX17.

ATC Vet — QC04AX17.

Profile

Vinburnine is an alkaloid related to vincamine (below) and has been used in conditions associated with cerebral circulatory insufficiency.

Vinburnine phosphate has been used similarly.

Preparations

Proprietary Preparations (details are given in Part 3)

Fr.: Cervoxan; ***Ital.:*** Eburnal†; Tensiplex†; ***Port.:*** Cervoxan; ***Spain:*** Cervoxan.

Vincamine *(BAN, rINN)*

Vincamina; Vincaminum. Methyl (3α,16α)-14,15-dihydro-14β-hydroxyeburnamenine-14-carboxylate.

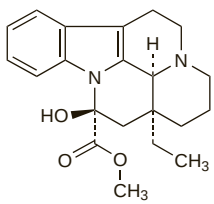
Винкамин

$C_{21}H_{26}N_2O_3$ = 354.4.

CAS — 1617-90-9.

ATC — C04AX07.

ATC Vet — QC04AX07.



Pharmacopoeias. In *Fr.*

Profile

Vincamine is an alkaloid obtained from *Vinca minor* (Apocynaceae). It is claimed to increase cerebral circulation and utilisation of oxygen and has been used in a variety of cerebral disorders. Vincamine may have adverse effects on the cardiovascular system and care should be taken in patients with hypertension or cardiac dysfunction.

Vincamine salts including vincamine hydrochloride, oxoglurate, teprosilate, and hydrogen tartrate have also been used.

Preparations

Proprietary Preparations (details are given in Part 3)

Arg.: Cincuental†; Vinkhum; ***Austria:*** Cetal†; ***Belg.:*** Cerebroxine; ***Fr.:*** Vinca†; ***Ger.:*** Ophdilvas N†; ***Hong Kong:*** Aethroma†; ***Ital.:*** Vasonett†; Vinca-Ri†; Vinca-Treis; Vincadar†; Vraap†; ***Mex.:*** Vincapan; ***Port.:*** Arteriovinca; Cervinca; Vincagil†; ***Spain:*** Arteriovinca†; Domeni†; Tefavinca; Vadicate†; Vincacen; Vincaminol; ***Switz.:*** Cetal†; Oxygeron.

Multi-ingredient: ***Arg.:*** Ribex; ***Fr.:*** Rheobral; ***Port.:*** Anacervix; Centracetam†; Stimilfar†; ***Spain:*** Anacervix; Devincal; ***Venez.:*** Devincal†.

Vinpocetine *(USAN, rINN)*

AY-27255; Ethyl Apovincaminate; Ethyl Apovincaminoate; RGH-4405; Vinpocetin; Vinpocetina; Vinpocétine; Vinpocetinum; Vinposetiini. Ethyl (3α,16α)-eburnamenine-14-carboxylate.

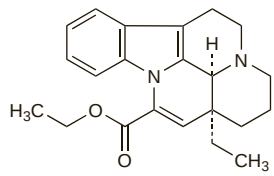
Винпоцетин

$C_{22}H_{26}N_2O_2$ = 350.5.

CAS — 42971-09-5.

ATC — N06BX18.

ATC Vet — QN06BX18.



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

Ph. Eur. 6.2 (Vinpocetine). A white or slightly yellow, crystalline powder. Practically insoluble in water; soluble in dichloromethane; slightly soluble in anhydrous alcohol.

Profile

Vinpocetine is a derivative of vincamine (above) that has been given orally in cerebrovascular disorders and dementia. Good evidence to support its use in cognitive impairment is lacking.

◊ References.

1. Grandt R, *et al.* Vinpocetine pharmacokinetics in elderly subjects. *Arzneimittelforschung* 1989; **39:** 1599–1602.
2. Blaha L, *et al.* Clinical evidence of the effectiveness of vinpocetine in the treatment of organic psychosyndrome. *Hum Psychopharmacol Clin Exp* 1989; **4:** 103–11.
3. Bereczki D, Fekete I. A systematic review of vinpocetine therapy in acute ischaemic stroke. *Eur J Clin Pharmacol* 1999; **55:** 349–52.
4. Szatmari SZ, Whitehouse PJ. Vinpocetine for cognitive impairment and dementia. Available in The Cochrane Database of Systematic Reviews; Issue 1. Chichester: John Wiley; 2003 (accessed 31/03/06).
5. Kemény V, *et al.* Acute and chronic effects of vinpocetine on cerebral hemodynamics and neuropsychological performance in multi-infarct patients. *J Clin Pharmacol* 2005; **45:** 1048–54.

Preparations

Proprietary Preparations (details are given in Part 3)

Arg.: Cavinton†; ***Braz.:*** Vicog; ***Cz.:*** Cavinton; Vicebrol; ***Ger.:*** Cavinton†; ***Hung.:*** Cavinton; ***Pol.:*** Cavinton; Vicebrol; Vinpoton; ***Port.:*** Cavinton; Ultra-Vinca; Vipocem; ***Rus.:*** Cavinton (Кавинтон); Telectol (Телектол); ***Singapore:*** Cavinton; ***Thai.:*** Cavinton; Vinpocen.

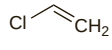
Multi-ingredient: ***Rus.:*** Vinpotropile (Винпотропил).

Vinyl Chloride

Cloruro de vinilo; VCM; Vinilo, cloruro de; Vinyl Chloride Monomer; Winylu chlorek. Chloroethylene.

C_2H_3Cl = 62.50.

CAS — 75-01-4.



Profile

Vinyl chloride is used in the manufacture of polyvinyl chloride (PVC) and other vinyl polymers. Occupational exposure to vinyl chloride in polymerisation plants has been associated with acro-osteolysis, especially in the terminal phalanges of the fingers, a condition resembling Raynaud's phenomenon, and scleroderma-tous skin changes. Liver damage and hepatic angiosarcoma, splenomegaly, thrombocytopenia, impaired respiratory function, and chromosomal abnormalities have also occurred.

◊ References.

1. Infante PF, *et al.* Genetic risks of vinyl chloride. *Lancet* 1976; **i:** 734–5.
2. Black CM, *et al.* Genetic susceptibility to scleroderma-like syndrome induced by vinyl chloride. *Lancet* 1983; **i:** 53–5.
3. Piratsu R, *et al.* La mortalità dei produttori di cloruro di vinile in Italia. *Med Lav* 1991; **82:** 388–423.
4. Riordan SM, *et al.* Vinyl chloride related hepatic angiosarcoma in a polyvinyl chloride autoclave cleaner in Australia. *Med J Aust* 1991; **155:** 125–8.
5. Mur JM, *et al.* Spontaneous abortion and exposure to vinyl chloride. *Lancet* 1992; **339:** 127–8.
6. McLaughlin JK, Lipworth L. A critical review of the epidemiologic literature on health effects of occupational exposure to vinyl chloride. *J Epidemiol Biostat* 1999; **4:** 253–75.

Water

Agua; Aqua; Aqua Communis; Aqua Fontana; Aqua Potabilis; Eau Potable; Vatten; Vesi; Víz; Wasser; Woda.

H_2O = 18.02.

CAS — 7732-18-5.

Purified Water

Agua purificada; Aqua purificata; Eau purifiée; Išgrynintas vanduo; Puhdistettu vesi; Tisztított víz; Vatten, renat; Voda čištěná; Woda oczyszczona.

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, *Jpn*, *US*, and *Viet.*

Eur. also includes Highly Purified Water. *US* also includes Sterile Purified Water.

Some pharmacopoeias only include distilled water or have additional monographs for demineralised water or distilled water.

Ph. Eur. 6.2 (Water, Purified; Aqua Purificata). It is water for the preparation of medicines other than those that are required to be both sterile and apyrogenic, unless otherwise justified and authorised. It is prepared from suitable potable water either by distillation, by ion exchange, by reverse osmosis, or by any other suitable method. Store in conditions designed to prevent growth of micro-organisms and to avoid any other contamination. Sub-monographs cover Purified Water in Bulk and Purified Water in Containers.

Ph. Eur. 6.2 (Water, Highly Purified; Aqua Valde Purificata). It is water intended for the preparation of medicinal products where water of high biological quality is needed, except where Water for Injections is required.

USP 31 (Purified Water). It is prepared from potable water by a suitable process.

Preparation. ***DEIONISATION.*** By passing potable water through columns of anionic and cationic ion-exchange resins, ionisable substances can be removed, producing a water of high specific resistance. Colloidal and non-ionisable impurities such as pyrogens may not be removed by this process.

DISTILLATION. In this process water is separated as vapour from non-volatile impurities and is subsequently condensed. In practice, non-volatile impurities may be carried into the distillate by entrainment unless a suitable baffle is fitted to the still.

Water for Injections

Agua para inyecciones; Aq. pro Inj.; Aqua ad iniectabilia; Aqua ad Injectionem; Aqua Injectabilis; Aqua Pro Iniectione; Aqua pro Injectione; Aqua pro Injectionibus; Eau pour préparations injectables; Injekcinis vanduo; Injektionesteisiin käytettävä vesi; Vatten för injektionsvätskor; Víz parenterális célra; Voda na injekci; Wasser für Injektionszwecke; Water for Injection; Woda do wstrzykiwań.

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, *Jpn*, *US*, and *Viet.*

US also includes Sterile Water for Injection, Sterile Water for Inhalation, Sterile Water for Irrigation, and Bacteriostatic Water for Injection.

Ph. Eur. 6.2 (Water for Injections). It is water for the preparation of medicines for parenteral administration when water is used as the vehicle, and for dissolving or diluting substances or preparations for parenteral administration. It is prepared by distillation of potable water or purified water from a neutral glass, quartz, or suitable metal still fitted with an effective device for preventing the entrainment of droplets; the first portion of the distillate is discarded and the remainder collected. Store in conditions designed to prevent growth of micro-organisms and to avoid any other contamination. Sub-monographs cover Water for Injections in Bulk and Sterilised Water for Injections.

USP 31 (Water for Injection). It is purified by distillation or a purification process that is equivalent or superior to distillation in the removal of chemicals and micro-organisms. When used for the preparation of parenteral solutions it should be sterilised first or the final preparation should be sterilised after preparation. Sterile Water for Injection, Inhalation, or Irrigation and Bacteriostatic Water for Injection are the subjects of separate monographs.

Profile

There are international standards for the quality of water intended for human consumption. Toxic substances such as arsenic, barium, cadmium, chromium, copper, cyanide, lead, and selenium may constitute a danger to health if present in drinking water