

## Preparations

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

**Austral.:** Mederma; **Chile:** Mederma†; **Israel:** Mederma; **Malaysia:** Mederma; **Pol.:** Alcepe; **Singapore:** Mederma; **USA:** Mederma.

**Multi-ingredient:** **Arg.:** Contractubex; **Aust.:** Garlic Allium Complex; **Austria:** Contractubex; **Braz.:** Contractubex; **Cz.:** Contractubex; **Ger.:** Contractubex; **Hong Kong:** Contractubex; **Hung.:** Contractubex; **India:** Contractubex; **Indon.:** Mederma; **Ital.:** Skarflex; **Malaysia:** Palmer's Cocoa Butter Formula Scar Serum; **Philipp.:** Contractubex; **Pol.:** Alcepalan; Cēpan; Cepasme; Cepastil; Contractubex; **Rus.:** Contractubex (Контрактубекс); **Singapore:** Erase; **Switz.:** Contractubex.

## Ononis

Arrête-Bœuf; Bugrane, racine de; Busktörmerot; Dirvenijë Saknys; Gatuña; Hauhechelwurzel; Jelicový kořen; Ononidis radix; Piikkiorakonjuuri; Racine de Bugrane; Radix Ononidis; Restharrow Root; Spiny Restharrow; Tövisesigile-gyökér.

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

**Ph. Eur. 6.2** (Restharrow Root). The whole or cut, dried root of *Ononis spinosa*.

## Profile

Ononis has diuretic activity. It has been used in herbal preparations for the treatment of oedema, urinary-tract disorders, rheumatic disorders, and constipation.

## Preparations

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

**Multi-ingredient:** **Austria:** Krauter Hustensaft; Nierentee St Severin; Uropurat; **Cz.:** Nephrosal†; Species Diureticae Planta†; Species Urologicae Planta†; Stoffwechseltee N†; Urologicka Cajova Smes; **Fr.:** Depuratum; Schoum; **Ger.:** Alasenn; Aqualibra; Hevert-Blasen-Nieren-Tee N; Heweberol-Tee; nephro-loges; Nephronorm med†; Nephroselect M; Nephrobin-N†; Nieren Blasen- und Nieren-Tee V†; Nieren-Tee N†; Presselin Nieren-Blasen K 3†; Renob Blasen- und Nierentee; Uvirgan N†; **Ital.:** Gramigna (Specie Composita)†; Soluzione Schoum; **Pol.:** Betasol; Diuronis; **Rus.:** Herbin Urological Drops (Гербин Урологические Капли); **Switz.:** Dematur Dragees pour les reins et la vessie; Nephrosolid; Phytomed Nephro†; Prosta-Caps Chassot N.

## Bitter Orange

Aurantii amari flos (bitter-orange flower); Aurantii Amari Pericarpium (bitter orange fruit); Bigaradier; Karčavaisių citrinmedžių žiedai (bitter-orange flower); Keserű narancs virág (bitter-orange flower); Květ hořkého pomeranče (bitter-orange flower); Naranja Amarga; Naranja amarga, corteza de; Oranger amer; fleur d' (bitter-orange flower); Owocnia pomarańczy gorzkiej (bitter orange fruit); Pomeransblomma (bitter-orange flower); Pomeranssinkukka (bitter-orange flower); Pomeranze; Seville Orange.

Апельсин; Померанец

**Pharmacopoeias.** *Eur.* includes the dried peel and flowers. *Jpn* includes the peel.

**Ph. Eur. 6.2** (Bitter-orange Epicarp and Mesocarp; Aurantii amari epicarpium et mesocarpium; Dried Bitter-orange Peel BP 2008). The dried epicarp and mesocarp of the ripe fruit of *Citrus aurantium*, partly freed from the white spongy tissue of the mesocarp and endocarp, containing a minimum of 2.0% v/v of essential oil, calculated with reference to the anhydrous drug. It has an aromatic odour and a spicy bitter taste.

**Ph. Eur. 6.2** (Bitter-orange Flower; Aurantii amari flos). The whole, dried, unopened flower of *C. aurantium* subsp. *aurantium* containing a minimum of 8.0% of total flavonoids, expressed as naringin ( $C_{27}H_{32}O_{14}$  = 580.5), calculated with reference to the dried drug.

## Profile

The dried peel of the bitter orange, *Citrus aurantium* subsp. *aurantium* (*Citrus aurantium* subsp. *amara*) (Rutaceae) is used as a flavour and for its bitter and carminative properties. An essential oil is prepared from fresh bitter-orange peel (bitter-orange oil) and is similar to sweet orange oil (p.2357). Both bitter-orange oil and petitgrain bigarade oil (prepared from the leaves and twigs) are used in aromatherapy.

The flowers are an ingredient of herbal remedies used for nervous and sleep disorders. Bitter-orange flower is the source of Neroli Oil (p.2351).

The whole dried immature fruit is used similarly to the dried peel. In Chinese medicine, the dried immature fruits are known as zhi shi and zhi qiao.

Photosensitivity is associated with citrus oils.

**Action and use.** *Citrus aurantium* was one of the most frequently used herbal remedies in Puerto Rico.<sup>1</sup> Indications included sleep disorders, gastrointestinal disorders, respiratory ailments, and raised blood pressure.

The volatile oil of dried bitter-orange peel has shown antifungal activity.<sup>2</sup>

Bitter-orange extract has been added to herbal weight loss remedies as it contains the sympathomimetic synephrine (a name that has been used for both phenylephrine and oxedrine), which is claimed to increase metabolism and promote thermogenesis, although efficacy is not proven. Variant angina<sup>3</sup> and ischaemic colitis<sup>4</sup> have been reported in patients taking dietary supplements containing bitter orange, and reports of serious cardiovascular

adverse effects possibly associated with the synephrine content of bitter orange present in such preparations have been received in Canada.<sup>5,6</sup> Raised systolic and diastolic blood pressure and heart rate were seen after ingestion of a proprietary bitter orange preparation in one small randomised placebo-controlled crossover study.<sup>7</sup> However, in a similar study<sup>8</sup> comparing a single-ingredient bitter orange preparation with a combination preparation, adverse haemodynamic effects appeared to be related to the additional presence of other possible stimulants such as caffeine, rather than directly proportional to the dose of bitter orange alone.

- Hernández L, *et al.* Use of medicinal plants by ambulatory patients in Puerto Rico. *Am J Hosp Pharm* 1984; **41**: 2060–4.
- Ramadan W, *et al.* Oil of bitter orange: new topical antifungal agent. *Int J Dermatol* 1996; **35**: 448–9.
- Gange CA, *et al.* Variant angina associated with bitter orange in a dietary supplement. *Mayo Clin Proc* 2006; **81**: 545–8.
- Sultan S, *et al.* Ischemic colitis associated with use of a bitter orange-containing dietary weight-loss supplement. *Mayo Clin Proc* 2006; **81**: 1630–1.
- Health Canada. Products containing bitter orange or synephrine: suspected cardiovascular adverse reactions. *Can Adverse React News* 2004; **14** (4): 3–4. Also available at: [http://www.hc-sc.gc.ca/dhp-mps/alt\\_formats/hpfb-dgpsa/pdf/medeff/carn-bcei\\_v14n4-eng.pdf](http://www.hc-sc.gc.ca/dhp-mps/alt_formats/hpfb-dgpsa/pdf/medeff/carn-bcei_v14n4-eng.pdf) (accessed 06/08/08)
- Health Canada. Bitter orange or synephrine: update on cardiovascular adverse reactions. *Can Adverse React News* 2007; **17** (2): 2–3. Also available at: [http://www.hc-sc.gc.ca/dhp-mps/alt\\_formats/hpfb-dgpsa/pdf/medeff/carn-bcei\\_v17n2-eng.pdf](http://www.hc-sc.gc.ca/dhp-mps/alt_formats/hpfb-dgpsa/pdf/medeff/carn-bcei_v17n2-eng.pdf) (accessed 06/08/08)
- Bui LT, *et al.* Blood pressure and heart rate effects following a single dose of bitter orange. *Ann Pharmacother* 2006; **40**: 53–7.
- Haller CA, *et al.* Hemodynamic effects of ephedra-free weight-loss supplements in humans. *Am J Med* 2005; **118**: 998–1003.

## Preparations

**BP 2008:** Concentrated Compound Gentian Infusion; Concentrated Orange Peel Infusion; Orange Peel Infusion; Orange Syrup; **Ph. Eur.:** Bitter-Orange-Epicarp and Mesocarp Tincture.

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

**Ger.:** Carvomin Magentropfen mit Pomeranze†.

**Multi-ingredient:** **Arg.:** Calmtabs†; Hepatodirectol; **Austria:** China-Eisenwein; Eicebaer; Ferrovin-Chinaeisenwein; Mariazzeller; Montana; Sigmant-Haustropfen; St Bonifatius-Tee; Tussimont; **Canad.:** Biotrim†; **Cz.:** Klosterfrau Melissana; Naturland Grosser Swedenbitter†; Pleumolysin; Schlaf-Ner-ventee N†; **Fr.:** Calmophytum; Elxir Bonjean; Elxir Grez†; Mediflor Tisane Calmante Troubles du Sommeil No 14; Quintonine; Vegetoserum; **Ger.:** Carminativum-Hetterich; Doppelherz Melissegeist†; Gallexier; Gastro-curf; Montana N; Sedovent; **Hong Kong:** LEAN Formula w/ Advantra†; **India:** Toniazol†; **Indon.:** Jesscool; **Israel:** Passiflora; **Ital.:** Assenzio (Specie Composita)†; Gastro-Pepsin; Genziana (Specie Composita)†; Valeriana (Specie Composita)†; **Pol.:** Herbaton; Kropke Zoladkowie; **Rus.:** Doppelherz Melissa (Доппелггерц Мелисса); Original Grosser Bittner Balsam (Оригинальный Большой Бальзам Биттнера); **S.Afr.:** Versterkdruppels; **Singapore:** Chitosano; **Spain:** Euzymina Lisina I; Euzymina Lisina II; Jaquesort†; Natusor Jaquesant†; Sedonat; **Switz.:** Pastilles pectorales Demo N; Phytomed Nervoj†; Tisane calmante pour les enfants; Tisane pour le sommeil et les nerfs; **UK:** Vital Eyes.

## Sweet Orange

Naranja.

**Pharmacopoeias.** *Chin.* includes both the dried immature fruit of *Citrus aurantium* and its cultivated varieties and the dried young fruit of *C. aurantium*. *Swiss* includes the ripe fresh fruit of *Citrus sinensis*.

## Profile

Sweet orange, *Citrus sinensis* (*Citrus aurantium* var. *dulcis*) (Rutaceae), is an ingredient of herbal remedies used for nervous and sleep disorders. The peel is the source of sweet orange oil (below). Citrus fruits are a source of vitamin C (p.1983).

Photosensitivity is associated with citrus oils.

## Preparations

**USNF 26:** Orange Syrup; Sweet Orange Peel Tincture.

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

**Multi-ingredient:** **Austria:** Expectal-Tropfen; Magentee St Severin; Mariazzeller; **Cz.:** Passedan; **Ger.:** Majorcarmin forte†; **Rus.:** Original Grosser Bittner Balsam (Оригинальный Большой Бальзам Биттнера).

## Sweet Orange Oil

Apelsininių citrinmedžių vaisių žievelių eterinis aliejus; Apelsinolja; Apelsininkuoriöljy; Arancia Dolce Essenza; Aurantii dulcis aetheroleum; Aurantii Dulcis Pericarpii Etheroleum; Essence of Orange; Essence of Portugal; Essência de Laranja; Naranja, aceite esencial de; Orange douce, huile essentielle d'; Orange Oil; Silice opłódź słodkiego pomarańcze.

**NOTE.** The oil from the flowers of *Citrus aurantium* var. *amara* is known as neroli oil or orange flower oil (p.2351).

**Pharmacopoeias.** In *Eur.* (see p.vii) and *Jpn.* Also in *USNF*.

**Ph. Eur. 6.2** (Sweet Orange Oil). An essential oil obtained without heating, by suitable mechanical treatment from the fresh peel of the fruit of *Citrus sinensis* (*Citrus aurantium* var. *dulcis*). A suitable antioxidant may be added. It contains 0.4 to 0.6%  $\alpha$ -pinene, 0.2 to 0.3%  $\beta$ -pinene, 0.2 to 1.1% sabinene, 1.7 to 2.5%  $\beta$ -myrcene, 92.0 to 97.0% limonene, 0.1 to 0.4% octanal, 0.1 to 0.4% decanal, 0.2 to 0.7% linalol, 0.02 to 0.10% neral, 0.02 to 0.5% valencene, and 0.03 to 0.02% geranial.

A clear, pale yellow to orange, mobile liquid, which may become

cloudy when chilled. It has a characteristic odour of fresh orange peel. Relative density 0.842 to 0.850. Store in well-filled airtight containers at a temperature not exceeding 25°. Protect from light.

**USNF 26** (Orange Oil). The volatile oil obtained by expression from the fresh peel of the ripe fruit of *Citrus sinensis* (Rutaceae), containing not less than 1.2% w/v and not more than 2.5% w/v of aldehydes, calculated as decanal ( $C_{10}H_{20}O$  = 156.3). It may be California-type or Florida-type orange oil. Store in well-filled airtight containers.

## Profile

Sweet orange oil is used as a flavour, in perfumery, and in aromatherapy. It is used in the preparation of terpeneless orange oil. Photosensitivity reactions have been reported with citrus oils.

## Preparations

**USNF 26:** Compound Orange Spirit.

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

**Multi-ingredient:** **Cz.:** Coldastop; **Ger.:** GeloSitin; **Hong Kong:** Mages-to; **Switz.:** Perskindol Classic; Pinimenthol†; Sansilla; Sibrovita; **Thai.:** Mages-to.

## Terpeneless Orange Oil

Naranja sin terpeno, aceite esencial de; Oleum Aurantii Deterpenatum.

**Pharmacopoeias.** In *Br.*

**BP 2008** (Terpeneless Orange Oil). A clear yellow or orange-yellow liquid, visibly free from water, with the odour and taste of orange, prepared by concentrating orange oil under reduced pressure until most of the terpenes have been removed, or by solvent partition. It contains not less than 18% w/w of aldehydes calculated as decanal ( $C_{10}H_{20}O$  = 156.3). Soluble 1 in 1 of alcohol (90%). Store in well-filled containers at a temperature not exceeding 25°. Protect from light.

## Profile

Terpeneless orange oil consists chiefly of the free alcohols (+)-linalol and (+)-terpineol. It is used as a flavour. It is stronger in flavour and more readily soluble than the natural oil. Photosensitivity is associated with citrus oils.

## Preparations

**BP 2008:** Compound Orange Spirit.

## Orazamide (rINN)

AICA Orotate; Orazamida; Orazamidum; Oroxamide. 5-Aminoimidazole-4-carboxamide orotate dihydrate.

Оразамида

$C_9H_{10}N_4O_5 \cdot 2H_2O$  = 318.2.

**CAS** — 2574-78-9 (anhydrous orazamide); 60104-30-5 (orazamide dihydrate).

## Profile

Orazamide has been given orally in the treatment of liver disorders.

## Preparations

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

**Port.:** Aicamin.

**Multi-ingredient:** **Port.:** Oraica†.

## Orchis Mascula

Early Purple Orchid.

Ятрышник Мужской

## Profile

*Orchis mascula*, which is alleged to have aphrodisiac properties, has been used in herbal preparations for male sexual disorders.

Salep, a flour made from the dried ground tubers of *Orchis mascula* and various other species of orchid, contains a nutritious mucilage called bassorin; ice-cream made from salep is a great delicacy in Turkey.

## Preparations

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

**Multi-ingredient:** **Rus.:** Speman (Спеман); Speman Forte (Спеман Форте); Tentex (Тентекс).

## Oregano

Dost; Origan; Origan herba; Origan Vulgaris Herba; Wild Marjoram.

**CAS** — 8007-11-2 (origanum oil).

**NOTE.** Distinguish from Marjoram, p.2337

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

**Ph. Eur. 6.2** (Oregano). The dried leaves and flowers, separated from the stems, of *Origanum onites* or *O. vulgare* subsp. *hirtum*, or a mixture of both species. It contains a minimum of 2.5% v/v of essential oil, which contains a minimum of 60% of carvacrol and thymol, calculated with reference to the anhydrous drug. Protect from light.

The symbol † denotes a preparation no longer actively marketed

**Profile**

The aerial parts of oregano, *Origanum onites* (Lamiaceae), or *O. vulgare* or its subspecies, are used as a culinary herb and in herbal preparations.

There is some confusion over the naming of origanum oils. Oil from *O. vulgare* has been used medicinally. Origanum Oil is the oil obtained from *Coridothymus capitatus* (*Thymus capitatus*) but oils from other related species may also be referred to as origanum oils, and Oil of Origanum was also given as a synonym for Thyme Oil in BPC 1949. Preparations listed in *Martindale* as containing origanum oil may contain an oil from any of these related species.

**Preparations**

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

**Multi-ingredient:** **Austral.:** Gartech; **Austria:** Asthmatee EF-EM-ES; Baby Luif; **Cz.:** Bronchosan; Fytokliman Planta; Melaton; **Pol.:** Herbolon; Herbolon D; **Spain:** Pazbronquial; **Switz.:** Demonatur Capsules contre les refroidissements.

**Orlistat** (BAN, USAN, rINN)

Orlipastat; Orlistaatii; Orlistatum; Ro-18-0647; Ro-18-0647/002; Tetrahydrolipstatin. N-Formyl-L-leucine, ester with (3S,4S)-3-hexyl-4-[(2S)-2-hydroxytridecyl]-2-oxetanone; (5S)-1-[(2S,3S)-3-Hexyl-4-oxo-oxetan-2-ylmethyl]dodecyl N-formyl-L-leucinate.

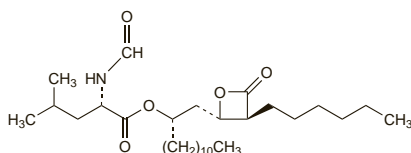
Орлистат

$C_{29}H_{53}NO_5 = 495.7$ .

CAS — 96829-58-2.

ATC — A08AB01.

ATC Vet — QA08AB01.

**Adverse Effects**

Gastrointestinal disturbances, including faecal urgency and incontinence, flatulence, and fatty stools or discharge, are the most frequently reported adverse effects during treatment with orlistat. They may be minimised by limiting the amount of fat in the diet. Other reported effects have included headache, anxiety, fatigue, and menstrual irregularities. There have been concerns about an increased risk of breast cancer in patients taking orlistat but the manufacturers consider that there is no evidence of a causal link.

**Effects on the cardiovascular system.** A report of hypertension associated with orlistat therapy.<sup>1</sup> Blood pressure decreased on stopping orlistat and increased again on rechallenge. The authors noted that 13 cases of hypertension associated with orlistat had been reported to the manufacturers.

1. Persson M, *et al.* Orlistat associated with hypertension. *BMJ* 2000; **321**: 87.

**Effects on the skin.** Lichenoid drug eruption affecting the vulva, feet, and axillae has been reported in a woman during orlistat treatment.<sup>1</sup> Symptoms resolved on stopping orlistat with only the vulval lesions requiring topical treatment with mometasone furate 0.1%.

1. Sergeant A, *et al.* Lichenoid eruption associated with orlistat. *Br J Dermatol* 2006; **154**: 1020–21.

**Precautions**

Orlistat should not be given to patients with chronic malabsorption syndrome or cholestasis and should be given with caution to patients with a history of hyperoxaluria or calcium oxalate nephrolithiasis. Adjustments to dosage of hypoglycaemics may be necessary in patients with type II diabetes because of improved metabolic control after weight loss in these patients. Supplements of fat-soluble vitamins may be necessary during long-term therapy, but they should be taken at least 2 hours before or after an orlistat dose or at bedtime. Hormonal contraceptive failure may occur in the event of severe diarrhoea with orlistat, and patients are advised to use an additional contraceptive method.

**Interactions**

Orlistat may reduce the absorption of fat-soluble vitamins. Licensed product information recommends that it not be taken with acarbose. In patients taking warfarin, international normalised ratio should be monitored during treatment with orlistat. A reduction in ciclosporin concentrations to subtherapeutic levels has been reported in transplant recipients given orlistat (see p.1826). Orlistat may also reduce the absorption of propafenone. For the possibility of hormonal contraceptive failure with orlistat see Precautions, above.

**Pharmacokinetics**

Orlistat is minimally absorbed after oral doses.

**Uses and Administration**

Orlistat is a gastric and pancreatic lipase inhibitor that limits the absorption of dietary fat. It is used together with dietary modification in the management of obesity (p.2149), i.e. in patients

with a BMI of 30 kg/m<sup>2</sup> or greater. It may also be used in overweight patients with a BMI of 27 kg/m<sup>2</sup> or more if there are associated risk factors. Orlistat is given in a usual dose of 120 mg orally three times daily, immediately before, during, or up to 1 hour after meals. If a meal is missed or contains no fat, the dose should be omitted. Orlistat therapy should be stopped if the patient does not lose at least 5% of their body-weight during the first 12 weeks of therapy.

**References**

1. NICE. Guidance on the use of orlistat for the treatment of obesity in adults (issued March 2001). Available at: <http://www.nice.org.uk/nicemedia/pdf/orlistatguidance.pdf> (accessed 06/08/08)
2. Lucas KH, Kaplan-Machlis B. Orlistat—a novel weight loss therapy. *Ann Pharmacother* 2001; **35**: 314–28.
3. Keating GM, Jarvis B. Orlistat: in the prevention and treatment of type 2 diabetes mellitus. *Drugs* 2001; **61**: 2107–21.
4. Snider LJ, Malone M. Orlistat use in type 2 diabetes. *Ann Pharmacother* 2002; **36**: 1210–18.
5. Torgerson JS, *et al.* XENICAL in the prevention of diabetes in obese subjects (XENDOS) study: a randomized study of orlistat as an adjunct to lifestyle changes for the prevention of type 2 diabetes in obese patients. *Diabetes Care* 2004; **27**: 155–61.
6. Guy-Grand B, *et al.* Effects of orlistat on obesity-related diseases—a six-month randomized trial. *Diabetes Obes Metab* 2004; **6**: 375–83.
7. Chanoine J-P, *et al.* Effect of orlistat on weight and body composition in obese adolescents: a randomized controlled trial. *JAMA* 2005; **293**: 2873–83. Correction. *ibid.*; **294**: 1491.
8. Hennessy S, Perry CM. Orlistat: a review of its use in the management of obesity. *Drugs* 2006; **66**: 1625–56.
9. Filipatos TD, *et al.* Orlistat-associated adverse effects and drug interactions: a critical review. *Drug Safety* 2008; **31**: 53–65.

**Preparations**

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

**Arg.:** Crisplus; Fingras; Xenical; Xeniplex; Ximplex; **Austral.:** Xenical; **Austria:** Xenical; **Belg.:** Xenical; **Braz.:** Xenical; **Canada:** Xenical; **Chile:** Viplena; **Cz.:** Xenical; **Denm.:** Xenical; **Fin.:** Xenical; **Fr.:** Xenical; **Ger.:** Xenical; **Gr.:** Xenical; **Hong Kong:** Xenical; **Hung.:** Xenical; **Indon.:** Xenical; **Irl.:** Xenical; **Israel:** Xenical; **Ital.:** Xenical; **Malaysia:** Xenical; **Mex.:** Redustat; **Neth.:** Xenical; **Norw.:** Xenical; **NZ:** Xenical; **Philipp.:** Xenical; **Pol.:** Xenical; **Port.:** Xenical; **S.Afr.:** Xenical; **Singapore:** Xenical; **Spain:** Xenical; **Swed.:** Xenical; **Switz.:** Xenical; **Thai.:** Xenical; **Turk.:** Xenical; **UK:** Xenical; **USA:** Alli; **Xenical;** **Venez.:** Xenical.

**Ornippresin** (rINN)

Ornippresina; Ornippresine; Ornippresinum. [8-Ornithine]-vasopressin.

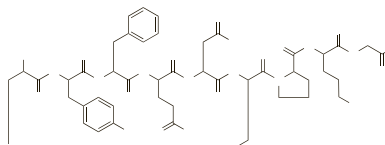
Орнипрессин

$C_{45}H_{63}N_{13}O_{12}S_2 = 1042.2$ .

CAS — 3397-23-7.

ATC — H01BA05.

ATC Vet — QH01BA05.

**Profile**

Ornippresin is a synthetic derivative of vasopressin (p.2411) with similar actions. It is reported to be a strong vasoconstrictor with only weak antidiuretic properties and is used to reduce bleeding during surgery. A solution containing up to 5 units in 20 to 60 mL of sodium chloride 0.9% is infiltrated into the area involved. Ornippresin is also used for bleeding oesophageal varices (under Monoethanolamine, p.2346) in a dose of 20 units diluted in 100 mL of sodium chloride 0.9% given as a continuous intravenous infusion over 48 hours.

**References**

1. Kam PC, Tay TM. The pharmacology of ornippresin (POR-8): a local vasoconstrictor used in surgery. *Eur J Anaesthesiol* 1998; **15**: 133–9.
2. De Kock M, *et al.* Ornippresin (Por 8): an efficient alternative to counteract hypotension during combined general/epidural anesthesia. *Anesth Analg* 2000; **90**: 1301–7.

**Adverse effects.** Acute pulmonary oedema occurred in a patient after infiltration of ornippresin (12 units in 40 mL isotonic saline) as a local vasoconstrictor during surgery.<sup>1</sup> It was suggested that no more than 100 milliunits/kg should be given in this manner.

1. Borgeat A, *et al.* Acute pulmonary oedema following administration of ornithine-8-vasopressin. *Br J Anaesth* 1990; **65**: 548–51.

**Hepatorenal syndrome.** Ornippresin has been found to be of benefit<sup>1,4</sup> in the hepatorenal syndrome, a form of renal insufficiency associated with cirrhosis of the liver, and thought to be due to severe renal vasoconstriction secondary to systemic arterial vasodilatation. However, caution in its use has been urged<sup>2</sup> because of the risk of ischaemic complications.

1. Lenz K, *et al.* Ornippresin in the treatment of functional renal failure in decompensated liver cirrhosis: effects on renal hemodynamics and atrial natriuretic factor. *Gastroenterology* 1991; **101**: 1060–7.

2. Guevara M, *et al.* Reversibility of hepatorenal syndrome by prolonged administration of ornippresin and plasma volume expansion. *Hepatology* 1998; **27**: 35–41.
3. Gülbeg V, *et al.* Long-term therapy and retreatment of hepatorenal syndrome type 1 with ornippresin and dopamine. *Hepatology* 1999; **30**: 870–5.
4. Restuccia T, *et al.* Effects of treatment of hepatorenal syndrome before transplantation on posttransplantation outcome: a case-control study. *J Hepatol* 2004; **40**: 140–6.

**Preparations**

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

**Austral.:** POR 8; **Austria:** POR 8; **NZ:** POR 8; **S.Afr.:** POR 8.

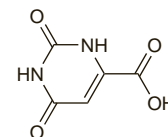
**Orotic Acid** (BAN, pINN)

Acide Orotique; Ácido orótico; Acidum Oroticum; Animal Galactose Factor; Oroottihappo; Orotsyra; Uracil-6-carboxylic Acid; Vitamin B<sub>13</sub>; Vitamina B<sub>13</sub>; Whey Factor; 1,2,3,6-Tetrahydro-2,6-dioxypyrimidine-4-carboxylic acid.

Оротовая Кислота

$C_5H_4N_2O_4 = 156.1$ .

CAS — 65-86-1 (anhydrous orotic acid); 50887-69-9 (orotic acid monohydrate).

**Profile**

Orotic acid, an intermediate in the biosynthesis of pyrimidine nucleotides, occurs naturally in the body and is also found in milk. Orotic acid and its calcium, carnitine, choline, lithium, lysine, and potassium salts have been used in liver disorders. Some of these salts, as well as chromium, cyproheptadine, deanol, magnesium, and zinc orotates have been given as tonics or dietary supplements.

**Preparations**

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

**Cz.:** Magnerot; Zinkorotat-POS; **Ger.:** magnerot Classic; Magnesorot; Power Orot; Zinkorot; **Hung.:** Magnerot; **Rus.:** Magnerot (Magnepot).

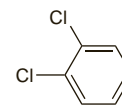
**Multi-ingredient:** **Arg.:** Bil 13; Zimerol; **Austral.:** Bioglan Bioage Peripheral; Mag-Oro; Magnesium Plus; Potasi; **Austria:** Lemazol; **Hong Kong:** Hepatofalk; Lipochol; Tres Orix Forte; **Mex.:** Lipovitalis-Or; **Philipp.:** Gode; **Port.:** Oraica; **S.Afr.:** Hepabionta; **Spain:** Hepadif; Hepato Fardif; Tres Orix Forte; **Switz.:** Kawaform; Magnesium Complex; Vigorant; **Thai.:** Lipochol; **UK:** Sugar Bloc.

**Orthodichlorobenzene**

Ortodichlorobenceno. 1,2-Dichlorobenzene.

$C_6H_4Cl_2 = 147.0$ .

CAS — 95-50-1.

**Profile**

Orthodichlorobenzene has been used as an ingredient of solutions for dissolving ear wax. It has also been used as a wood and furniture preservative. Orthodichlorobenzene is an irritant volatile liquid; lens opacities have occurred.

**Preparations**

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

**Multi-ingredient:** **Austral.:** Cerumol; **Switz.:** Cerumenol.

**Oryzanol**

Gamma Oryzanol; Orizanol; γ-Oryzanol; γ-OZ. Triacetyl 3-(4-hydroxy-3-methoxyphenyl)prop-2-enoate.

$C_{40}H_{58}O_4 = 602.9$ .

CAS — 11042-64-1.

**Profile**

Oryzanol is a substance extracted from rice bran oil and rice embryo bud oil. It has been given orally in the treatment of hyperlipidaemias. It has also been used for its supposed effects on autonomic and endocrine function.

**References**

1. Cicero AF, Gaddi A. Rice bran oil and gamma-oryzanol in the treatment of hyperlipoproteinaemias and other conditions. *Phytother Res* 2001; **15**: 277–89.