

ma, infection, respiratory-tract congestion, or chronic venous insufficiency, in usual doses of 5 to 10 mg (10 000 to 20 000 units) up to three times daily.

#### References.

- Tachibana M, et al. A multi-centre, double-blind study of serrapeptase versus placebo in post-anthrotyomy buccal swelling. *Pharmatherapeutica* 1984; **3**: 526–30.
- Paparella P, et al. Serratiopeptidase and acute phase protein behavior following vaginal hysterectomy: results of a randomized double-blind, placebo-controlled trial. *Curr Ther Res* 1989; **45**: 664–76.
- Shimizu H, et al. A case of serratiopeptidase-induced subepidermal bullous dermatitis. *Br J Dermatol* 1999; **141**: 1139–40.
- Nakamura S, et al. Effect of the proteolytic enzyme serrapeptase in patients with chronic airway disease. *Respirology* 2003; **8**: 316–20.

### Preparations

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

**Arg.:** Danzen; **Chile:** Damizen; **Fr.:** Dazen; **Ger.:** Aniflazym; **Gr.:** Brasan; Enziflurj; Ezej; Lergan; Verolinj; **Hong Kong:** Danzen; Unizen; **India:** Bidanzen; Cipzen; Flanzin; Infladase; Kinet; Seram; Serato-M; **Ital.:** Danzen; **Jpn:** Dasen; **Malaysia:** Danzen; Unizen; **Mex.:** Danzen; **Port.:** Aniflazime; **Singapore:** Danzen; Korzenj; Serrazyme; Sinsia; Unizenj; **Thai.:** Dailat; Danzen; Danzyme; Denzo; Medizymej; Podasej; Rodase; Seramed; Serradase; Serrano; Serrao; Serrapep; Serrason; Serrin; Sumidin; Unizen.

**Multi-ingredient:** **India:** Cipzen D; Cipzen N; Diser; Flanzin-D; Nimulid SP; Serato-M Fortej; **Indon.:** Dansera; Flavin; Nutriflam.

### Sesame Oil

Acete de Ajonjoli; Benne Oil; Gingelly Oil; Oleum Sesami; Refined Sesame Oil; Seesamiölj; Sésame, huile de; Sesami oleum; Sésamo, aceite de; Sesamolja; Sezamový olej; Sezamų aliejus; Szezámolaj; Teel Oil.

CAS — 8008-74-0.

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

**Ph. Eur. 6.2** (Sesame Oil, Refined; Sesami Oleum Raffinatum). The fatty oil obtained from the ripe seeds of *Sesamum indicum* by expression or extraction and subsequent refining. It may contain a suitable antioxidant. It is a clear, light yellow, almost colourless liquid. It solidifies to a soft mass at about  $-4^{\circ}$ . Practically insoluble in alcohol; miscible with petroleum spirit. Store in well-filled, airtight containers. Protect from light. Refined sesame oil for use in the manufacture of parenteral dosage forms should be stored under an inert gas in airtight containers.

**USNF 26** (Sesame Oil). The refined fixed oil obtained from the seed of one or more cultivated varieties of *Sesamum indicum* (Pedaliaceae). It may contain suitable antioxidants. A pale yellow, practically odourless, oily liquid. Slightly soluble in alcohol; miscible with carbon disulfide, with chloroform, with ether, and with petroleum spirit. Store in airtight containers at a temperature not exceeding  $40^{\circ}$ . Protect from light.

#### Profile

Sesame oil has been used in the preparation of liniments, plasters, ointments, and soaps. Because it is relatively stable, it is a useful solvent and vehicle for parenteral products. Hypersensitivity reactions have been seen.

**Adverse effects.** References to hypersensitivity reactions<sup>1-7</sup> associated with sesame, and subcutaneous nodules<sup>8</sup> after injection of the oil.

- Kanny G, et al. Sesame seed and sesame seed oil contain masked allergens of growing importance. *Allergy* 1996; **51**: 952–7.
- Stern A, Wuthrich B. Non-IgE-mediated anaphylaxis to sesame. *Allergy* 1998; **53**: 325–6.
- Pecquet C, et al. Immediate hypersensitivity to sesame in foods and cosmetics. *Contact Dermatitis* 1998; **39**: 313.
- Asero R, et al. A case of sesame seed-induced anaphylaxis. *Allergy* 1999; **54**: 526–7.
- Dalal I, et al. The pattern of sesame sensitivity among infants and children. *Pediatr Allergy Immunol* 2003; **14**: 312–16.
- Agne PS, et al. Sesame seed allergy in children. *Allerg Immunol (Paris)* 2004; **36**: 300–305.
- Gangur V, et al. Sesame allergy: a growing food allergy of global proportions? *Ann Allergy Asthma Immunol* 2005; **95**: 4–11.
- Darsow U, et al. Subcutaneous oleomas induced by self-injection of sesame seed oil for muscle augmentation. *J Am Acad Dermatol* 2000; **42**: 292–4.

### Preparations

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

**Canad.:** Rhinaris Nozoil; **UK:** Noseeze.

**Multi-ingredient:** **Austral.:** Snor-Awayj; **Ger.:** GeloSitin; **NZ:** Snorenz; **UK:** Goodnight StopSnore; Snor-Away.

### Shark-liver Oil

#### Profile

Shark-liver oil is the fixed oil extracted from the liver of various species of shark and is used in preparations for anorectal disorders. It has been used as a source of vitamin A.

### Preparations

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

**Arg.:** Sperti Preparacion H; **Fr.:** Alkocœan; **Pol.:** Ecomer; Ekogal; Selamer; **Rus.:** Relief Advance (Релиф Адванс); **UK:** Immutone; **Venez.:** Sperti; Vitaburonj.

**Multi-ingredient:** **Arg.:** Sperti Plus Preparacion H; **Austral.:** Preparacion H; **Austria:** Sperti Preparacion H; **Canad.:** Preparacion H; **Chile:** Sperti Preparacion H; **Cz.:** Preparacion H; **Ger.:** Sperti Preparacion H; **Gr.:** Preparacion H; **Hong Kong:** Preparacion H; **India:** Medithane; **Irl.:** Preparacion H; **Israel:** Preparacion H; **Ital.:** Preparazione H; **Malaysia:** Palmer's Cocoa Butter Formula Scar Serum; **Mex.:** Preparacion H; **Neth.:** Sperti Preparacion H; **Pol.:** Preparacion H; Prostamerj; **Port.:** Sperti Preparacao H; **Rus.:** Preparacion H (Препарейш Эйч); Relief (Релиф); Relief Ultra (Релиф Ультра); **S.Afr.:** Preparacion H; **Singapore:** Preparacion H; **Spain:** Preparacion H; **Switz.:** Sperti Preparacion H; **Thai.:** Preparacion H; **UK:** Preparacion H; **USA:** Hem-Prep; Mediconej; Preparacion H; Rectacaine; Rectagene Medicated Balm; Wyanooids Relief Factor; **Venez.:** Bargonil.

### Shellac

E904; Goma laca; Gomme Laque; Gommess laques; Lacca; Lacca in Tabulis; Schellack; Šelak; Šelakas; Sellak; Shellack; Shellakka.

CAS — 9000-59-3.

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

*Jpn* includes Purified Shellac and White Shellac (Bleached).

**Ph. Eur. 6.2** (Shellac). It is obtained by purification of the resinous secretion of the female insect *Kerria lacca* (Kerr) Lindinger (*Laccifer lacca* Kerr). There are 4 types of shellac depending on the nature of the treatment of crude secretion (seedlac): Wax-containing Shellac; Bleached Shellac; Dewaxed Shellac; and Bleached, Dewaxed Shellac.

Brownish-orange or yellow, shining, translucent, hard or brittle more or less thin flakes (Wax-containing Shellac; Dewaxed Shellac), or a creamy-white or brownish-yellow powder (Bleached Shellac; Bleached, Dewaxed Shellac).

Practically insoluble in water. With dehydrated alcohol it gives a more or less opalescent solution (Wax-containing Shellac; Bleached Shellac) or a clear solution (Dewaxed Shellac; Bleached, Dewaxed Shellac). When warmed, it is sparingly soluble or soluble in alkaline solutions. Protect from light. Store Bleached Shellac and Bleached, Dewaxed Shellac at a temperature not exceeding  $15^{\circ}$ .

**USNF 26** (Shellac). It is obtained by purification of lac, the resinous secretion of the insect *Laccifer lacca kerr* (Coccidae). There are 4 varieties: Orange Shellac, Dewaxed Orange Shellac, Regular Bleached (White) Shellac, and Refined Bleached Shellac. Orange Shellac occurs as thin, hard, brittle, transparent, pale lemon-yellow to brownish-orange flakes, having little or no odour. Bleached Shellac occurs as opaque, amorphous, cream to yellow granules or coarse powder, having little or no odour. Insoluble in water; very slowly soluble in alcohol, 85 to 95% (w/w); soluble in ether, 13 to 15%, in petroleum spirit, 2 to 6%, in benzene, 10 to 20%, and in aqueous solutions of ethanalamines, alkalis, and borax; sparingly soluble in turpentine oil. Store preferably at a temperature not exceeding  $8^{\circ}$ .

#### Profile

Shellac is used as an enteric coating for pills and tablets, but disintegration time has been reported to increase markedly on storage.

### Preparations

**USNF 26:** Pharmaceutical Glaze.

### Shepherd's Purse

Bolsa de pastor; Bourse à pasteur; Capsella; Herba Bursae Pastoris; Shepherds Burse Herb.

**Pharmacopoeias.** In *Fr.*

#### Profile

Shepherd's purse, the aerial parts of *Capsella bursa-pastoris* (*Thlaspi bursa-pastoris*) (Cruciferae) has antihæmorrhagic and astringent properties. It is used to prevent or arrest bleeding, and has been specifically used for menorrhagia. It is also used for urinary-tract disorders and diarrhoea.

**Homeopathy.** Shepherd's purse has been used in homeopathic medicines under the following names: Capsella bursa-pastoris; Thlaspi bursa pastoris; Capsella; Thal. b. p.

### Preparations

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

**Ger.:** Styptysat.

**Multi-ingredient:** **Austral.:** Capsella Complex; **Austria:** Menodoron; **Fr.:** Histo-Fluine P; **Ger.:** Rhoivalj; **Pol.:** Klimaxj; Prostopol; Uroprost; **S.Afr.:** Menodoron; **Spain:** Proctosorj; **UK:** Antitis; Sciargo.

### Siam Benzoin

Benjoin du Laos; Benjuj de Siam; Bensoe, Siam; Bentsoe, Siam; Benzoin tonkinensis; Benzoino derva; Benzoová pryskyřice siamská.

CAS — 9000-72-0.

**Pharmacopoeias.** In *Chin.* and *Eur.* (see p.vii). Also in some pharmacopoeias under the title benzoin and should not be con-

fused with Sumatra benzoin. *Jpn* and *US* allow both Siam benzoin and Sumatra benzoin under the title Benzoin.

**Ph. Eur. 6.2** (Benzoin, Siam). The resin obtained by incising the trunk of *Syrax tonkinensis*. It has a characteristic odour of vanillin and contains 45.0 to 55.0% of total acids, calculated as benzoic acid, and with reference to the dried drug. Protect from light.

**USP 31** (Benzoin). A balsamic resin from *Syrax tonkinensis*, or other species of the *Anthostyrax* section of the genus *Syrax* (Styracaceae). It yields not less than 90% of alcohol-soluble extractive. It occurs as pebble-like tears of variable size and shape, compressed, yellowish-brown to rusty brown externally, milky white on fracture, separate or very slightly agglutinated, hard and brittle at ordinary temperatures but softened by heat. It has an agreeable, balsamic, vanilla-like odour.

#### Profile

Siam benzoin has been used similarly to Sumatra benzoin (p.2394). It has also been used as a preservative and was formerly used in the preparation of benzoinated lard.

Preparations of Sumatra and Siam benzoins are used in aromatherapy.

### Preparations

**USP 31:** Compound Benzoin Tincture; Podophyllum Resin Topical Solution.

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

**Multi-ingredient:** **Braz.:** Dermolj; **Fr.:** Balsolene; Borostyrol; Homeoplasmine; Intolyol; **Israel:** Intolyol; **Ital.:** Ondriolo-Aj; **Switz.:** Borostyrol Nj.

### Siberian Ginseng

Ciwujia; Eleuterokokový kořen (eleutherococcus); Eleuterokokų šaknys (eleutherococcus); Eleuthero; Eleutherococci radix (eleutherococcus); Éléuthérocoque (eleutherococcus); Koczera eleuterokoka (eleutherococcus); Rysk rot (eleutherococcus); Tajgagyökér (eleutherococcus); Venäjänjuuri (eleutherococcus).

**NOTE.** The name Russian Ginseng has been applied to *Eleutherococcus senticosus*.

The name Ginseng usually refers to *Panax ginseng* and related species (see p.2312).

Some material supplied as Siberian ginseng may be *Periploca sepium* (Asclepiadaceae), a plant unrelated to *Eleutherococcus senticosus*, due to the similarity of the Chinese names for these plants.

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

**Ph. Eur. 6.2** (Eleutherococcus; Eleutherococci Radix). The dried, whole or cut underground organs of *Eleutherococcus senticosus*. It contains not less than 0.08% of the sum of eleutheroside B and eleutheroside E.

**USP 31** (Eleuthero). The dried rhizome with roots of *Eleutherococcus senticosus* (Araliaceae) (*Acanthopanax senticosus*) (Araliaceae). It contains not less than 0.08% of the sum of eleutheroside B and eleutheroside E, calculated on the dried basis. Protect from light.

#### Profile

Siberian ginseng is reported to enhance natural resistance and to improve performance under stress. It is used similarly to ginseng (*Panax ginseng*) (see p.2312) although the constituents of the two herbs are different. It is also used in traditional Chinese medicine.

#### References.

- Davydov M, Krikorian AD. Eleutherococcus senticosus (Rupr. & Maxim.) Maxim. (Araliaceae) as an adaptogen: a closer look. *J Ethnopharmacol* 2000; **72**: 345–93.

**Adverse effects.** Thalamic infarction occurred in a 26-year-old man who had taken oral high-energy dietary supplements containing Siberian ginseng daily for about a year during a vigorous training programme for a marathon.<sup>1</sup> He had taken about 1.5 to 2 g of Siberian ginseng daily; small amounts of caffeine were also contained in the preparations. In the absence of other aetiological factors, it was proposed that prolonged daily use of Siberian ginseng in combination with caffeine and vigorous exercise was responsible for the stroke.

- Polenakovic S. Dietary supplements and stroke. *Mayo Clin Proc* 2005; **80**: 1240–1.

**Interactions.** For a report of raised serum-digoxin concentrations in a patient taking digoxin and Siberian ginseng, see Interference with Digoxin Assays, p.1260.

### Preparations

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

**Canad.:** Benlyin Energy Boostingj; **Cz.:** Eleutherosan; **Ger.:** Eleu-Kokk; Eleu-Twardypharmj; Eleutheroforce; EleutheroKokk; Konstitutin; Lebensenergie-Kapseln; Lomavital; Vital-Kapseln; **Pol.:** Immunostim; Syberian; **Spain:** Fitokej Eleuterococo; **UK:** Elagen.

**Multi-ingredient:** **Arg.:** Sigmafem; **Austral.:** Astragalus Complex; Bacopa Complex; Bioglan Ginsengery; Gingo Aj; Ginkgo Biloba Plusj; Medinat Esten; Tyroseng; **Chile:** Gingo-Therj; **Indon.:** Remaxa; Tripote; **Ital.:** Fon Wan Eleutheroj; **Philipp.:** Immuvit; **Japan.:** Imanson Total Energy; **Pol.:** Tripote; **Spain:** Energysorj; Esforzaj; **Naturor** Low Blood Pressurej; Tonimax.