

**Preparations****Proprietary Preparations** (details are given in Part 3)**Multi-ingredient:** **Ger.:** Cholagutt-N†; **Spain:** Natusor Somnisedan†; Sedasor†.**Spike Lavender Oil**

Alhucema, aceite esencial de; Huile Essentielle d'Aspic; Ol. Lavand. Spic.; Oleum Lavandulae Spicatae; Spicae Actheroleum; Spike Oil.

**Pharmacopoeias.** In *Fr.***Profile**Spike lavender oil is the volatile oil from *Lavandula latifolia* (Labiatae). It resembles lavender oil (p.2331) in its properties and is mainly used in perfumery. It is also used in aromatherapy. Hypersensitivity reactions may occur.**Preparations****Proprietary Preparations** (details are given in Part 3)**Austria:** Tavipec; **Ger.:** Bronchobest†; **Thal.:** Tavipec.**Multi-ingredient:** **Austria:** Novipeic; Talsamag; **Rus.:** Carmolis (Кармолис)†; **S.Afr.:** Balsam Vita GEEL; Balsam Vita ROOI; Balsam Vita WIT; Stuidruppels; **Switz.:** Baume du Chalet; Fortalis.**Spirulina**

Espirulina.

Спирulina

**Profile**

Spirulina is a species of blue-green algae that has been promoted as an anorectic, but there is no convincing evidence that it is safe or effective for this indication.

**Preparations****Proprietary Preparations** (details are given in Part 3)**Fr.:** Phycocyan†; **India:** Fitness; **Indon.:** Spirimate; **UK:** Biolina.**Multi-ingredient:** **Arg.:** No-Gras; **Austral.:** Cal Alkyline; Rubus Complex†; **Chile:** Natur-Zin; Natursel-C; Reducform-F; **Fr.:** Thalgo Tonic; **India:** Vitexid; **Malaysia:** Eyebright Plus†.**Star Anise**

Anís Estrellado; Anís Étoilé; Anisi stellati fructus; Anisum Badium; Anisum Stellatum; Badiana; Badiane; Badiane de Chine; Badyánik-ový ploid; Chinese Star Anise; Csillagánizs; Owoc anyżu gwiaździstego; Star Anise Fruit; Sternanis; Stjarnanis; Tähtianis; Žvaigždanyžiu vaisiai.

NOTE. Distinguish from Japanese star anise.

**Pharmacopoeias.** In *Chin.*, and *Eur.* (see p.vii).**Ph. Eur. 6.2** (Star Anise; Anisi Stellati Fructus). The dried composite fruit of *Illicium verum*, containing not less than 7% v/w of essential oil with reference to the anhydrous drug and a minimum 86.0% of *trans*-anethole in the essential oil. Protect from light.**Profile**The fruit of star anise, *Illicium verum* (Illiciaceae), is used as an expectorant for catarrh and as a gastrointestinal antispasmodic. It is used with thyme (p.2401) in herbal preparations for colds and upper respiratory-tract disorders. It is also used as a culinary spice.

Star anise is the source of star anise oil (below). It is also the source of shikimic acid, which is used in the production of the anti-influenza drug oseltamivir (p.900).

Adulteration of star anise with Japanese star anise (shikimi fruits; *I. anisatum*) has been responsible for a number of cases of neurotoxicity (see below). Import restrictions have been implemented in the EU. The problem is further complicated because the name *I. anisatum* has been applied to *I. verum*.**Adverse effects.** Neurotoxicity has been associated with the use of star anise infusions in infants.<sup>1-3</sup> The toxicity is attributed to adulteration or contamination of Chinese star anise (*Illicium verum*) with Japanese star anise (*I. anisatum*) which contains toxic sesquiterpene lactones such as anisatin.

- Garzo Fernandez C, et al. Casos de enfermedad de sintomatología neurológica asociados al consumo de anís estrellado empleado como carminativo. *An Esp Pediatr* 2002; **57**: 290-4.
- Minodier P, et al. Intoxicación aguda par la badiane chez Le nourrisson. *Arch Pediatr* 2003; **10**: 619-21.
- Ize-Ludlow D, et al. Neurotoxicities in infants seen with the consumption of star anise tea. Abstract: *Pediatrics* 2004; **114**: 1330. Full version: <http://pediatrics.aappublications.org/cgi/content/full/114/5/e653> (accessed 04/05/06)

**Preparations****Proprietary Preparations** (details are given in Part 3)**Multi-ingredient:** **Braz.:** Dorveran†; Ductoveran; Elixir 914†; **Cz.:** Naturland Grosser Swedenbitter†; **Ital.:** Relaxoc; **Spain:** Digestovital†; **Switz.:** Tisane laxative; Tisane pectorale et antitussive; **Venez.:** Atrobel; Cloverin†; Ervossil.**Star Anise Oil**

Anisi stellati aetheroleum; Anisi Stellati Etheroleum; Badiane, huile essentielle de; Badyániková silice; Oleum Badianae; Stjarn-anisolja; Tähtianisöly; Žvaigždanyžiu eterinis aliejus.

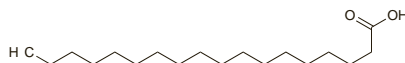
**Pharmacopoeias.** In *Eur.* (see p.vii). *USNF* includes star anise oil under the title Anise Oil.**Ph. Eur. 6.2** (Star Anise Oil; Anisi Stellati Aetheroleum). An essential oil obtained by steam distillation from the dry ripe fruits of *Illicium verum*. It contains 0.2 to 2.5% linalol, 0.5 to 6.0% estragole, less than 0.3%  $\alpha$ -terpineol, 0.1 to 0.5% *cis*-anethole, 86 to 93% *trans*-anethole, 0.1 to 0.5% anisaldehyde, and 0.1 to 3.0% foeniculin. A clear, colourless or pale yellow liquid. Relative density 0.979 to 0.985. F.p. 15° to 19°. Store in well-filled, airtight containers at a temperature not exceeding 25°. Protect from light.**USNF 26** (Anise Oil). The volatile oil distilled with steam from the dried, ripe fruit of *Pimpinella anisum* (Apiaceae) or from the dried ripe fruit of *Illicium verum* (Illiciaceae). Congealing temperature not lower than 15°. Soluble 1 in 3 of alcohol (90%). Store in well-filled airtight containers. If solid material has separated, carefully warm the oil until it is completely liquefied, and mix before using.**Profile**

Star anise oil is included in preparations for the treatment of coughs and cold symptoms. It is used in the pharmaceutical and food industries as an alternative to anise oil (see p.2258). It is also used in aromatherapy.

**Preparations****Proprietary Preparations** (details are given in Part 3)**Multi-ingredient:** **Ger.:** Eupata†; Makatussin Tropfen; **Switz.:** Foral†; Liberal Baby N; Odontal; **Turk.:** Sandolin.**Stearic Acid**

Acide stéarique; Acido Estéarico; Acidum stearicum; Estéarico, ácido; Kwaz stearowy; Kwaz stearynowy; Kyselina stearová; Octadecanoic Acid; Stearinihappo; Stearino rūgštis; Stearinsäure; Stearinsyra; Sztearinasyv.

CAS — 57-11-4 (stearic acid); 57-10-3 (palmitic acid).



NOTE. Stearic acid is sometimes incorrectly called 'stearine' in commerce.

**Pharmacopoeias.** In *Chin.*, *Eur.* (see p.vii), and *Jpn.* Also in *USNF*.*USNF* also includes a purified form.**Ph. Eur. 6.2** (Stearic Acid). It is obtained from fat or oils from a vegetable or animal source and is a mixture consisting mainly of stearic acid (C<sub>18</sub>H<sub>36</sub>O<sub>2</sub> = 284.5) and palmitic acid (C<sub>16</sub>H<sub>32</sub>O<sub>2</sub> = 256.4). Stearic Acid 50 contains 40 to 60% stearic acid, the sum of the contents of stearic and palmitic acids being a minimum 90%. Stearic Acid 70 contains 60 to 80% stearic acid, the sum of the contents of stearic and palmitic acids being a minimum 90%. Stearic Acid 95 contains a minimum of 90% stearic acid, the sum of the contents of stearic and palmitic acids being a minimum 96%. White or almost white, waxy, flaky crystals, white or almost white, hard masses, or a white or yellowish-white powder. Practically insoluble in water; soluble in alcohol and in petroleum spirit (50° to 70°).**USNF 26** (Stearic Acid). A mixture of stearic acid and palmitic acid, the content of stearic acid being not less than 40%, and the sum of the two not less than 90%. Congealing point not lower than 54°. Hard, white or faintly yellowish, somewhat glossy and crystalline solid, or white or yellowish-white powder, with a slight odour, suggesting tallow. Practically insoluble in water; soluble 1 in 20 of alcohol, 1 in 2 of chloroform, and 1 in 3 of ether.**USNF 26** (Purified Stearic Acid). It contains not less than 90% stearic acid and not less than 96% of stearic and palmitic acids. Congealing point 66° to 69°.**Profile**

Stearic acid is used as a lubricant in making tablets and capsules. It is also used as an emulsifying and solubilising agent. Various stearates are also used as pharmaceutical aids (see Nonionic Surfactants, p.1914, and Soaps and other Anionic Surfactants, p.2138).

**Stone Root**

Collinsonia; Collinsonia del Canadá; Hardhack; Heal-all; Knob Root.

**Profile**Stone root, the root and rhizome of *Collinsonia canadensis* (Labiatae), has diuretic and litholytic properties and is used in the

treatment of renal and urinary calculi. It is also used as an astringent for gastrointestinal disorders. It has also been included in herbal preparations for haemorrhoids.

**Homeopathy.** Stone root has been used in homeopathic medicines under the following names: *Collinsonia canadensis*; *Collin. c.***Preparations****Proprietary Preparations** (details are given in Part 3)**Multi-ingredient:** **UK:** Piletabs.**Storax**

Balsamum Sytrax Liquidus; Estoraque; Estoraque Líquido; Liquid Storax; Styraç.

**Pharmacopoeias.** In *Chin.* and *US*.**USP 31** (Storax). The balsam obtained from the trunk of *Liquidambar orientalis* (Levant storax) or *L. styraciflua* (American storax) (Hamamelidaceae). It is a semiliquid greyish to greyish-brown, sticky, opaque mass depositing on standing a heavy dark brown layer (Levant storax), or semisolid, sometimes a solid mass, softened by gently heating (American storax). It is transparent in thin layers, has a characteristic odour, and is more dense than water.

Insoluble in water; soluble, usually incompletely, in an equal weight of warm alcohol; soluble in acetone, in carbon disulfide, and in ether, some insoluble residue usually remaining.

**Profile**

Storax has actions similar to those of Peru balsam (p.2365). Purified storax or prepared storax was formerly applied as an ointment in the treatment of parasitic skin diseases. Storax has a mild antiseptic action and is an ingredient of some preparations for upper respiratory-tract disorders and for application to skin and mucous membranes. Skin sensitisation has been reported.

**Preparations****BP 2008:** Benzoin Inhalation; Compound Benzoin Tincture;**BPC 1954:** Compound Iodoform Paint;**USP 31:** Compound Benzoin Tincture.**Proprietary Preparations** (details are given in Part 3)**Multi-ingredient:** **Fr.:** Phylitolthe†; **NZ:** Frador; **S.Afr.:** Turulington Tincture; **UK:** Frador.**Stramonium**

Datura; Durmanový list (stramonium leaf); Dumaropių lapai (stramonium leaf); Estramonio; Hulluruohonlehti (stramonium leaf); Inferno; Jamestown Weed; Jimson Weed; Maszlaglevél (stramonium leaf); Stechapfel; Stramoine; Stramoine, feuille de (stramonium leaf); Stramonii folium (stramonium leaf); Stramoniumblad (stramonium leaf); Thornapple. ATC Vet — QR03BB03.

NOTE. The terms Datura, Datura Herb, and Datura Leaf have been applied to preparations of various species of the genus *Datura* including *Datura metel*.

The following terms have been used as 'street names' (see p.vi) or slang names for various forms of stramonium: Devil's weed; Loco weed.

**Pharmacopoeias.** *Eur.* (see p.vii) includes a monograph for Stramonium Leaf and Prepared Stramonium.**Ph. Eur. 6.2** (Stramonium Leaf; Stramonii Folium). It consists of the dried leaf or the dried leaf, flowering tops and occasionally fruit-bearing tops of *Datura stramonium* and its varieties. It contains not less than 0.25% of total alkaloids, calculated as hyoscyamine. The alkaloids consist mainly of hyoscyamine with varying proportions of hyoscyne. It has an unpleasant odour. Protect from light and moisture.

The BP 2008 directs that when stramonium leaf or powdered stramonium leaf is prescribed, prepared stramonium shall be dispensed.

**Ph. Eur. 6.2** (Stramonium, Prepared; Stramonii Pulvis Normatus). It is stramonium leaf powder adjusted to contain 0.23 to 0.27% of total alkaloids, calculated as hyoscyamine. Store in airtight containers. Protect from light.**Adverse Effects, Treatment, and Precautions**

As for Atropine Sulfate, p.1219.

**Abuse.** Some reports<sup>1-5</sup> of poisoning after abuse of *Datura stramonium* or its preparations.

- Goody JM. Stramonium intoxication: review of symptomatology in 212 cases. *JAMA* 1972; **221**: 585-7.
- Shervette RE, et al. Jimson "Loco" weed abuse in adolescents. *Pediatrics* 1979; **63**: 520-3.
- Anonymous. Jimson weed poisoning—Texas, New York, and California, 1994. *MMWR* 1995; **44**: 41-4.
- Salen P, et al. Effect of phosphygmine and gastric lavage in a *Datura stramonium*-induced anticholinergic poisoning epidemic. *Am J Emerg Med* 2003; **21**: 316-17.
- Boumba VA, et al. Fatal poisoning from ingestion of *Datura stramonium* seeds. *Vet Hum Toxicol* 2004; **46**: 81-2.

**Effects on the eyes.** Anisocoria (unequal dilatation of the pupils) developed after accidental entry of a piece of jimson weed (*Datura stramonium*) into a patient's eye while gardening.<sup>1</sup>

- Savitt DL, et al. Anisocoria from Jimsonweed. *JAMA* 1986; **255**: 1439-40.