

**Preparations****Proprietary Preparations** (details are given in Part 3)**Multi-ingredient:** **Austria:** Menodoron; **Fr.:** Dystolise; **Neth.:** Luuf Verkoudeidsbalsem (voor babies); **Pol.:** Salviasep; **S.Afr.:** Menodoron; **Spain:** Natusor Sinulanj.**Mastic**

Almáciga; Mastiche; Mastiksi; Mastix; Pistacijų mastika.

**Pharmacopoeias.** In *Eur.* (see p.vii).**Ph. Eur. 6.2** (Mastic). The dried resinous exudate obtained from stems and branches of *Pistacia lentiscus* var. *latifolius*. It contains a minimum of 1% v/w of essential oil, calculated with reference to the anhydrous drug. It should not be powdered.**Profile**

Solutions of mastic in alcohol, chloroform, or ether have been used, applied on cotton wool, as temporary fillings for carious teeth. Compound Mastic Paint (BP 1980) was formerly used as a protective covering for wounds and to hold gauze in position. Mastic gum has been used in the management of peptic ulcer disease.

**Peptic ulcer disease.** Mastic may be effective in the treatment of peptic ulcer disease possibly due to an antibacterial action on *Helicobacter pylori*.<sup>1</sup> However, one small clinical study found no benefit.<sup>2</sup>

- Huwes FU, et al. Mastic gum kills *Helicobacter pylori*. *N Engl J Med* 1998; **339**: 1946. Correction. *ibid.*: **340**: 576 [dose].
- Bebb JR, et al. Mastic gum has no effect on *Helicobacter pylori* load in vivo. *J Antimicrob Chemother* 2003; **52**: 522-3.

**Preparations****Proprietary Preparations** (details are given in Part 3)**UK:** Mastika.**Meadowsweet**

Älgört; Filipendulae ulmariae herba; Mesiangervo; Nat' tužebniku jilmovéhó; Pelkinai vingiorykščiu žolė; Queen of the Meadows; Reina de los prados; Reine des Prés; Reine des prés, sommité fleurie de; Spiraeae Herba; Ulmaria.

**Pharmacopoeias.** In *Eur.* (see p.vii).**Ph. Eur. 6.2** (Meadowsweet). The whole or cut, dried flowering tops of *Filipendula ulmaria* (*Spiraea ulmaria*). It contains a minimum of 0.1% v/w of steam-volatile substances (dried drug). It has an aromatic odour of methyl salicylate after crushing.**Profile**

Meadowsweet is used in herbal medicine as a diuretic and in gastrointestinal and rheumatic disorders.

**Homeopathy.** Meadowsweet has been used in homeopathic medicines under the following names: *Filipendula ulmaria*; *Spiraea ulmaria*; *Spiraea ulmaria ex herba*; *Filip. ul.***Preparations****Proprietary Preparations** (details are given in Part 3)**Multi-ingredient:** **Cz.:** Antirevmaticky Caj; **Fr.:** Drainuryl; Mediflor; Tisane Antrhumatisme No 2; Mediflor Tisane No 4 Diuretique; Polypirine; **Ital.:** Fiodolor; Neuralta Migren; Plk Gel; Sambuco (Specie Composta); Tiglio (Specie Composta); **Mex.:** Rodan; **Pol.:** Reumaherb; **Spain:** Dolosul; Natusor Harpagosinol; Natusor Renal; **Switz.:** Urinex; **UK:** Acidosis; Indigestion Mixture; **USA:** Amengel.**Meclofenoxate Hydrochloride** (BANM, rINN) ⊗

Centrophenoxine Hydrochloride; Clofenoxine Hydrochloride; Clophenoxate Hydrochloride; Deanol 4-Chlorophenoxyacetate Hydrochloride; Hidrocloruro de meclofenoxato; Meclofenoxane Hydrochloride; Méclofenoxate, Chlorhydrate de; Meclofenoxati Hydrochloridum. 2-Dimethylaminoethyl 4-chlorophenoxyacetate hydrochloride.

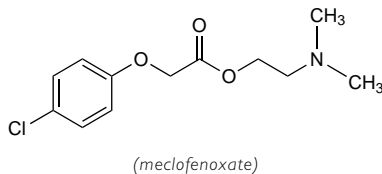
Меклофеноксат Гидрохлорид

C<sub>12</sub>H<sub>16</sub>ClNO<sub>3</sub>·HCl = 294.2.

CAS — 51-68-3 (meclofenoxate); 3685-84-5 (meclofenoxate hydrochloride).

ATC — N06BX01.

ATC Vet — QN06BX01.

**Pharmacopoeias.** In *Chin.* and *Jpn.***Profile**

Meclofenoxate hydrochloride has been claimed to aid cellular metabolism in the presence of diminished oxygen concentrations. It has been given mainly for mental changes in the elderly, or after strokes or head injury.

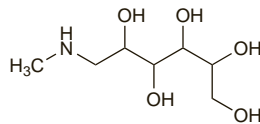
**Preparations****Proprietary Preparations** (details are given in Part 3)**Austria:** Lucidril; **Ger.:** Cerutilj; Helfferginj; **Hung.:** Helfferginj.**Meglumine** (BAN, rINN)

Meglumini; Meglumin; Meglumina; Megluminas; Méglumine; Megluminum. N-Methylglucamine; 1-Methylamino-1-deoxy-D-glucitol.

МЕГЛЮМИН

C<sub>7</sub>H<sub>17</sub>NO<sub>5</sub> = 195.2.

CAS — 6284-40-8.

**Pharmacopoeias.** In *Chin.*, *Eur.* (see p.vii), *Int.*, *Jpn.*, and *US.***Ph. Eur. 6.2** (Meglumine). A white or almost white, crystalline powder. Freely soluble in water; sparingly soluble in alcohol; practically insoluble in dichloromethane.**USP 31** (Meglumine). White to faintly yellowish-white, odourless crystals or powder. Freely soluble in water; sparingly soluble in alcohol.**Profile**

Meglumine is an organic base used for the preparation of salts of organic acids including many used as contrast media.

**Melaleuca Oil**

Australian Tea Tree Oil; Melaleuca, aceite de; Méleleuca, huile essentielle de; Melaleucaea aetheroleum; Melaleucaea Etheroleum; Mirtenij eterinis aliejus; Oleum Melaleucaea; Silice kajeputu střídavolistého; Tea Tree Oil; Teepuuölj; Teträdolja.

CAS — 68647-73-4; 8022-72-8.

NOTE. Though the synonym Ti-tree Oil has been used for melaleuca oil (e.g. in BPC 1949), the name Ti-tree is also applied to species of *Condyline* (Liliaceae) indigenous to New Zealand.**Pharmacopoeias.** In *Eur.* (see p.vii).**Ph. Eur. 6.2** (Tea Tree Oil). The essential oil obtained by steam distillation from the foliage and terminal branchlets of *Melaleuca alternifolia*, *M. linariifolia*, *M. dissitiflora*, and/or other species of *Melaleuca*. It contains less than 7.0% aromadendrene, less than 15% cineole, 0.5 to 12.0% p-cymene, 0.5 to 4.0% limonene, 1.0 to 6.0% α-pinene, less than 3.5% sabinene, 5.0 to 13.0% α-terpinene, 10.0 to 28.0% γ-terpinene, minimum of 30% terpinen-4-ol, 1.5 to 8.0% α-terpineol, and 1.5 to 5.0% terpinolene.

A clear, mobile, colourless to pale yellow liquid with a characteristic odour. Store in well-filled airtight containers at a temperature not exceeding 25°. Protect from light.

**Profile**

Melaleuca oil has bactericidal and fungicidal properties and is used topically for various skin disorders. It is also used in aromatherapy.

## ◇ References.

- Carson CF, et al. Efficacy and safety of tea tree oil as a topical antimicrobial agent. *J Hosp Infect* 1998; **40**: 175-8.
- Allen P. Tea tree oil: the science behind the antimicrobial hype. *Lancet* 2001; **358**: 1245.
- Satchell AC, et al. Treatment of interdigital tinea pedis with 25% and 50% tea tree oil solution: a randomized, placebo-controlled, blinded study. *Australas J Dermatol* 2002; **43**: 175-8.
- Hammer KA, et al. In vitro activity of Melaleuca alternifolia (tea tree) oil against dermatophytes and other filamentous fungi. *J Antimicrob Chemother* 2002; **50**: 195-9.
- Satchell AC, et al. Treatment of dandruff with 5% tea tree oil shampoo. *J Am Acad Dermatol* 2002; **47**: 852-5.
- Koh KJ, et al. Tea tree oil reduces histamine-induced skin inflammation. *Br J Dermatol* 2002; **147**: 1212-7.
- Mozelsio NB, et al. Immediate systemic hypersensitivity reaction associated with topical application of Australian tea tree oil. *Allergy Asthma Proc* 2003; **24**: 73-5.
- Perrett CM, et al. Tea tree oil dermatitis associated with linear IgA disease. *Clin Exp Dermatol* 2003; **28**: 167-70.
- Hammer KA, et al. Antifungal effects of Melaleuca alternifolia (tea tree) oil and its components on *Candida albicans*, *Candida glabrata* and *Saccharomyces cerevisiae*. *J Antimicrob Chemother* 2004; **53**: 1081-5.
- Hammer KA, et al. A review of the toxicity of Melaleuca alternifolia (tea tree) oil. *Food Chem Toxicol* 2006; **44**: 616-25.
- Carson CF, et al. Melaleuca alternifolia (Tea Tree) oil: a review of antimicrobial and other medicinal properties. *Clin Microbiol Rev* 2006; **19**: 50-62.

**Preparations****Proprietary Preparations** (details are given in Part 3)**Austral.:** Clean Skin Anti Acne; Rapaid Antisepticj; Rapaid Itch Relief; **Chile:** Acnoxyl Gel Cuidado Intensivoj; Acnoxyl Gel De Limpieza; Acnoxyl Stick Correctorj; Sebolic; **Fr.:** Myleuca; **Israel:** Burnshield; **Malaysia:** MIOOV; **Singapore:** Rapaidj; **UK:** Burnshield Gel; Melavir.**Multi-ingredient:** **Arg.:** Aveno; **Austral.:** Apex Repel Natural; APR Creamj; Clean Skin Face Wash; Curadermj; Neutralice; Rapaid Rash-Relief; SP Creamj; VRj; **Chile:** Acnoxyl Abrasivo; Acnoxyl Gel Humectante; Acnoxyl Jabon Liquido; Acnoxyl Jabonj; Acnoxyl Locion Tonica; AcnoxylShampoo Cabello Graso; **Fr.:** Cicatridine; Dermocica; Mycogel; Phytosq-ume; Squaphane P; **Hong Kong:** Mycogel; **Ital.:** Proctopure; **Malaysia:** T3 Acne; **NZ:** Apex Repel Natural; Electric Blue Headlice; Lice Blaster; **Singapore:** Burnaid; Rapaidj; T3; Timasolvj; **Thai:** Fungicon; Gynecon-T; **UK:** Dr Johnsons Nit & Lice; Sinose; Skin Clear; Tea Tree & Witch Hazel Cream; Teenstick.**Melanocyte-stimulating Hormone**B Hormone; Chromatophore Hormone; Intermedin; Intermedi-  
na; Melanotropin; MSH; Pigment Hormone.

CAS — 9002-79-3.

**Profile**

Melanocyte-stimulating hormone is a polypeptide isolated from the pars intermedia of the pituitary of fish and amphibia which causes dispersal of melanin granules in the skin of fish and amphibia and allows adaptation to the environment.

In adult humans, the pituitary gland lacks a distinct intermediate lobe, and the pituitary is not thought to secrete melanocyte-stimulating hormone (MSH) directly. However, the precursor molecule, pro-opiomelanocortin, is cleaved in the pituitary into corticotropin (p.1523), the glycoprotein β-lipotrophin (β-LPH), and an amino-terminal peptide. Subsequent processing in other tissues, such as the brain and gastrointestinal tract, may yield three forms of MSH, α-MSH (via corticotropin cleavage), β-MSH, and γ-MSH. The presence and function of these melanocyte-stimulating hormones in man are uncertain. A receptor analogous to that in amphibia is apparently lacking in humans; effects on skin pigmentation emanating from the pituitary are primarily mediated by corticotropin.

Release of melanocyte-stimulating hormone is inhibited in *animals* by melanostatin; there is also evidence for a hypothalamic releasing factor (MRF).

Melanocyte-stimulating hormone is under investigation, as α-MSH, in the prevention and treatment of ischaemic intrinsic acute renal failure. A synthetic analogue of α-MSH (4-L-norleucine-7-D-phenylalanine-α-MSH; melanotan-I) is under investigation as a stimulant of melatonin production for the prevention of sunburn.

**Melanostatin**Intermedin-inhibiting Factor; Melanocyte-stimulating-hormone-release-inhibiting Factor; Melanostatina; Melanotropin Release-inhibiting Factor; MIF; Pro-Leu-Gly-NH<sub>2</sub>.

CAS — 9083-38-9.

**Profile**Melanostatin is a tripeptide, obtained from the hypothalamus, that inhibits the release of melanocyte-stimulating hormone (see above) in *animals*. However, there is little evidence of its activity in man. It has been tried in the treatment of depression and parkinsonism but with little benefit.**Melatonin**

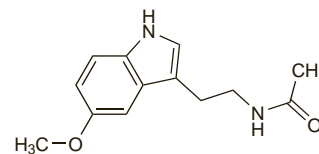
N-Acetyl-5-methoxytryptamine; Melatonini; Melatonina; Melatoninum. N-[2-(5-Methoxyindol-3-yl)ethyl]acetamide.

C<sub>13</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub> = 232.3.

CAS — 73-31-4.

ATC — N05CH01.

ATC Vet — QN05CH01.

**Profile**Melatonin is a hormone produced in the pineal gland from the amino acid tryptophan. Results mainly from *animal* studies indicate that melatonin increases the concentration of aminobutyric acid and serotonin in the midbrain and hypothalamus and enhances the activity of pyridoxal-kinase, an enzyme involved in the synthesis of aminobutyric acid, dopamine, and serotonin. Melatonin is involved in the inhibition of gonadal development and in the control of oestrus. It is also involved in protective changes in skin coloration. There appears to be a diurnal rhythm of melatonin secretion; it is secreted during hours of darkness and may affect sleep pattern. Because of its possible role in influencing circadian rhythm, melatonin has been tried in the alleviation of jet lag and other disorders resulting from delay of sleep. Doses of 2 mg given orally before bedtime are used in the short-term management of insomnia in patients aged 55 or over. Melatonin has also been studied in various depressive disorders including seasonal affective disorder, and in large doses for its contraceptive activity.

A number of melatonin analogues are being developed.