Paraffins and Similar Bases

This chapter includes substances used mainly as bases for the preparation of creams, ointments, other topical preparations, and suppositories. They may act as inert carriers for drugs or have emulsifying and emollient properties. Some are also used to improve the texture, stability, or water repellent properties of the final preparation. The bases discussed include petroleum hydrocarbons, animal fats and waxes, vegetable oils, and silicones. Other substances used in the preparation of bases can be found in Soaps and other Anionic Surfactants (p.2138) and in Nonionic Surfactants (p.1914).

Alkyl Benzoate

Alkyl (C12-15) Benzoate; Benzoato de alquilo.

Алкил Бензоат

CAS — 68411-27-8 (C_{12}-C_{15} alkyl ester).

Pharmacopoeias. In *USNF*.

USNF 26 (Alkyl (C12-15) Benzoate). It consists of esters of a mixture of C_{12} to C_{15} primary and branched alcohols and benzoic acid (average molecular formula $C_{20}H_{32}O_2$ = 304.5). It is a clear, practically colourless, oily liquid. Insoluble in water, in glycerol, and in propylene glycol; soluble in alcohol, in acetone, in ethyl acetate, in isopropyl alcohol, in isopropyl myristate, in isopropyl palmitate, in liquid paraffin, in vegetable oils, in volatile silicones, and in wool fat. Store in airtight containers. Protect from light.

Profile

Alkyl benzoate has emollient properties. It may be used as an oily vehicle.

White Beeswax

Baltasis vaškas; Bleached Wax; Cera alba; Cera Blanca; Cêra Branca; Cera de abejas; Cire Blanche; Cire d'abeille blanche; E901; Fehér viasz; Gebleichtes Wachs; Valkovaha; Vax, vitt; Vosk bílý; White Wax; Wosk biały.

Осветлённый Пчелиный Воск

CAS — 8012-89-3.

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

Ph. Eur. 6.2 (Beeswax, White). It is bleached yellow beeswax. It occurs as white or yellowish-white pieces or plates, translucent when thin, with an odour similar to that of yellow beeswax, though fainter and never rancid, and with a fine-grained, matt and non-crystalline fracture, becoming soft and malleable when warmed in the hand. Drop point 61° to 66°. Practically insoluble in water; partially soluble in hot alcohol; completely soluble in fatty and essential oils.

USNF 26 (White Wax). It is bleached and purified yellow beeswax. A yellowish-white solid, somewhat translucent in thin layers. It has a faint characteristic odour and is free from rancidity. M.p. 62° to 65°. Insoluble in water; sparingly soluble in cold alcohol; boiling alcohol dissolves the cerotic acid and a portion of the myricin that are constituents of the wax; completely soluble in chloroform, in ether, in fixed oils, and in volatile oils; partly soluble in cold benzene and in cold carbon disulfide; completely soluble in these liquids at about 30°.

Yellow Beeswax

Cêra Amarela; Cera Amarilla; Cera de abejas amarilla; Cera flava; Cire d'abeille jaune; Cire Jaune; E901; Gelbes Wachs; Geltonasis vaškas; Keltavaha; Refined Wax; Sárga viasz; Vax, gult; Vosk žlutý; Wosk żółty; Yellow Wax.

Жёлтый Пчелиный Воск

CAS — 8012-89-3.

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

Ph. Eur. 6.2 (Beeswax, Yellow). The wax obtained by melting with hot water the walls of the honeycomb of the bee, *Apis mellifera*, and removing the foreign matter. It occurs as yellow or light brown pieces or plates with a faint and characteristic odour of honey, and with a fine-grained, matt and non-crystalline fracture, becoming soft and malleable when warmed in the hand. Drop point 61° to 66°. Practically insoluble in water; partially soluble in hot alcohol; completely soluble in fatty and essential oils.

USNF 26 (Yellow Wax). The purified wax from the honeycomb of the bee, *Apis mellifera* (Apidae). It is a solid, varying in colour from yellow to greyish-brown with an agreeable honey-like odour, somewhat brittle when cold, pliable when warmed in the hand, and presenting a dull, granular, noncrystalline fracture when broken. M.p. 62° to 65°. Insoluble in water; sparingly soluble in cold alcohol; boiling alcohol dissolves the cerotic acid and a portion of the myricin that are constituents of the wax; completely soluble in chloroform, in ether, in fixed oils, and in volatile oils; partly soluble in cold benzene and in cold carbon disulfide; completely soluble in these liquids at about 30°.

Profile

Yellow beeswax is used as a stiffening agent in ointments and creams, and enables water to be incorporated to produce water-in-oil emulsions. It is also used as a coating in the manufacture of modified-release oral preparations. White beeswax has similar uses; it is occasionally used to adjust the melting-point of suppositories.

A sterile preparation of white beeswax, hard paraffin, and isopropyl palmitate (Sterile Surgical Bone Wax) is used to control bleeding from damaged bone during surgery. It should not be confused with Aseptic Surgical Wax (BPC 1949), also known as Horsley's Wax, which contained yellow beeswax, olive oil, and phenol in a mercuric chloride solution and was used to control haemorrhage in bone or cranial surgery.

Beeswaxes are also used in foods and cosmetics.

Hypersensitivity to beeswax has been reported.

Granuloma formation. Use of surgical bone wax has been associated with an inflammatory response in some patients. Formation of granuloma tissue at the site of application to the orbit,[1] foot,[2] and sternum[3] has been reported. Seven patients developed local pain and tenderness after use of bone wax in foot surgery; further surgery to remove granulomatous tissue 4 to 52 months later resolved pain in 5 patients.[2] In an autopsy study of 18 cadavers with evidence of sternotomy, 17 of which had macroscopic evidence of bone wax use, signs of inflammation or granuloma formation were found in all but one. The authors concluded that bone wax is non-resorbable and can cause chronic inflammation up to 10 years after application.[3]

1. Katz SE, Rootman J. Adverse effects of bone wax in surgery of the orbit. *Ophthal Plast Reconstr Surg* 1996; **12:** 121–6.
2. Anfinsen O-G, *et al.* Complications secondary to the use of standard bone wax in seven patients. *J Foot Ankle Surg* 1993; **32:** 505–8.
3. Sudmann B, *et al.* Histologically verified bone wax (beeswax) granuloma after median sternotomy in 17 of 18 autopsy cases. *Pathology* 2006; **38:** 138–41.

Hypersensitivity. Sensitivity reactions to topical beeswax products have been reported rarely. Contact dermatitis from use of a beeswax-based nipple protector has been reported,[1] and cheilitis from a beeswax lip product has also occurred.[2]

1. García M, *et al.* Allergic contact dermatitis from a beeswax nipple-protective. *Contact Dermatitis* 1995; **33:** 440–1.
2. Lucente P, *et al.* Contact cheilitis due to beeswax. *Contact Dermatitis* 1996; **35:** 258.

Preparations

BP 2008: Paraffin Ointment;
USP 31: Rose Water Ointment; White Ointment; Yellow Ointment.

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Arg.:*** Aqualane; Cold Cream Naturel†; Zoodermina Cream; ***Austria:*** Tiroler Steinöl; ***Braz.:*** Balmex; ***Chile:*** Cold Cream Avene; ***Fr.:*** Cerat Inalterable; Cold Cream Naturel; ***USA:*** Paladin.

Candelilla Wax

E902.

Канделильский Воск

CAS — 8006-44-8.

Pharmacopoeias. In *USNF*.

USNF 26 (Candelilla Wax). The purified wax from the leaves of the plant *Euphorbia antisyphilitica*. It is a hard, yellowish-brown, opaque to translucent wax. M.p. between 68.5° and 72.5°. Insoluble in water; soluble in chloroform and in toluene.

Profile

Candelilla wax is used as a pharmaceutical excipient and in the food industry.

Cetostearyl Alcohol

Alcohol cetoestearílico; Alcohol cetylicus et stearylicus; Alcohol Cetylstearylicus; Alcool Cetostearilico; Alkohol cetostearylowy; Cetearyl Alcohol; Cetil-sztearil-alkohol; Cetostearilo alkoholis; Cetostearyl Alc.; Cetostearylalkohol; Cétostéarylique alcool; Cétostéarylique, alcool; Cetylstearylalkohol; Setostearyylialkoholi.

Цетостеариловый Спирт

CAS — 8005-44-5; 67762-27-0.

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

Ph. Eur. 6.2 (Cetostearyl Alcohol). A mixture of solid aliphatic alcohols, mainly stearyl alcohol and cetyl alcohol. It contains not less than 90% of stearyl plus cetyl alcohols and not less than 40% of stearyl alcohol. A white or pale yellow wax-like mass, plates, flakes, or granules. M.p. 49° to 56°. Practically insoluble in water; soluble in alcohol and in petroleum spirit. When melted, it is miscible with fatty oils, with liquid paraffin, and with melted wool fat.

Ph. Eur. 6.2 (Cetostearyl Alcohol (Type A), Emulsifying; Alcohol Cetylicus et Stearylicus Emulsificans A). A mixture containing not less than 80% cetostearyl alcohol and not less than 7% sodium cetostearyl sulfate, both calculated with reference to the anhydrous substance. A suitable buffer may be added. White or pale yellow, wax-like mass, plates, flakes, or granules. Soluble in hot water giving an opalescent solution; practically insoluble in cold water; slightly soluble in alcohol.

Ph. Eur. 6.2 (Cetostearyl Alcohol (Type B), Emulsifying; Alcohol Cetylicus et Stearylicus Emulsificans B). A mixture containing not less than 80% cetostearyl alcohol and not less than 7% sodium laurilsulfate, both calculated with reference to the anhydrous substance. A suitable buffer may be added. White or pale yellow, wax-like mass, plates, flakes, or granules. Soluble in hot water giving an opalescent solution; practically insoluble in cold water; slightly soluble in alcohol.

USNF 26 (Cetostearyl Alcohol). It contains not less than 40% of stearyl alcohol ($C_{18}H_{38}O$ = 270.5) and the sum of the stearyl alcohol content and the cetyl alcohol ($C_{16}H_{34}O$ = 242.4) content is not less than 90%. Unctuous, white flakes or granules, having a faint, characteristic odour. M.p. 48° to 55°. Insoluble in water; soluble in alcohol and in ether.

Profile

Cetostearyl alcohol is used in creams, ointments, and other topical preparations as a stiffening agent and emulsion stabiliser. Used with suitable hydrophilic substances, as in Emulsifying Wax, it produces oil-in-water emulsions that are stable over a wide pH range. It is also used to improve the emollient properties of paraffin ointments. It is used in the formulation of modified-release oral preparations.

Cetostearyl alcohol can cause hypersensitivity.

Hypersensitivity. Sensitivity reactions to cetostearyl alcohol in topical preparations have been reported rarely.[1-3]

1. Pecegueiro M, *et al.* Contact dermatitis to Hirudoid cream. *Contact Dermatitis* 1987; **17:** 290–3.
2. Marston S. Contact dermatitis from cetostearyl alcohol in hydrocortisone butyrate lipocream, and from lanolin. *Contact Dermatitis* 1991; **24:** 372.
3. Rademaker M, *et al.* Contact dermatitis from cetostearyl alcohol. *Australas J Dermatol* 1997; **38:** 220–1.

Preparations

BP 2008: Cetomacrogol Emulsifying Wax; Cetrimide Emulsifying Ointment; Emulsifying Wax;
USNF 26: Emulsifying Wax.

Cetyl Alcohol

Alcohol cetílico; Alcohol cetylicus; Alcohol Hexadecílico; Álcool Cetílico; Alkohol cetylowy; Cetanol; Cetil-alkohol; Cetilo alkoholis; Cetylalkohol; Cétylique, alcool; Ethal; Ethol; 1-Hexadecanol; Hexadecan-1-ol; Hexadecyl Alcohol; *n*-Hexadecyl Alcohol; Palmityl Alcohol; Setyylialkoholi.

Цетиловый Спирт

$C_{16}H_{34}O$ = 242.4.

CAS — 36653-82-4; 124-29-8.

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

Ph. Eur. 6.2 (Cetyl Alcohol). A mixture of solid alcohols, mainly cetyl alcohol, of animal or vegetable origin. It occurs as a white or almost white, unctuous mass, powder, flakes, or granules. M.p. 46° to 52°. Practically insoluble in water; freely to sparingly soluble in alcohol; miscible when melted with animal and vegetable oils, with liquid paraffin, and with melted wool fat.

USNF 26 (Cetyl Alcohol). A mixture containing not less than 90% of cetyl alcohol the remainder consisting chiefly of related alcohols. White unctuous flakes, cubes, granules, or castings, with a faint characteristic odour. M.p. 45° to 50°. Insoluble in water; soluble in alcohol and in ether, the solubility increasing with increasing temperature.

Profile

Cetyl alcohol is used in topical preparations for its emollient, water absorptive, stiffening, and weak emulsifying properties. It may be incorporated into suppositories to raise the melting-point and may be used in the coating of modified-release solid dose forms. It is also used in cosmetics.

Cetyl alcohol can cause hypersensitivity.

Hypersensitivity. Hypersensitivity reactions have occasionally been attributed to the presence of cetyl alcohol in topical preparations.[1-4] One report suggested that minor impurities in the cetyl alcohol may be responsible.[1]

1. Komamura H, *et al.* A case of contact dermatitis due to impurities of cetyl alcohol. *Contact Dermatitis* 1997; **36:** 44–6.

2. Oiso N, *et al*. Concomitant allergic reaction to cetyl alcohol and crotamiton. *Contact Dermatitis* 2003; **49:** 261.
3. Soga F, *et al*. Contact dermatitis due to lanoconazole, cetyl alcohol and diethyl sebacate in lanoconazole cream. *Contact Dermatitis* 2004; **50:** 49–50.
4. Kiec-Swierczynska M, *et al*. Photoallergic and allergic reaction to 2-hydroxy-4-methoxybenzophenone (sunscreen) and allergy to cetyl alcohol in cosmetic cream. *Contact Dermatitis* 2005; **53:** 170–1.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Lactopan†.

Multi-ingredient: ***Arg.:*** Caien; ***Hong Kong:*** Ego Skin Cream; ***Malaysia:*** Ego Skin Cream; ***NZ:*** Ego Skin Cream; ***Philipp.:*** Dermalin; Sebo Fluid; ***Singapore:*** Ego Skin Cream.

Cetyl Esters Wax

Cera Cetyla; Cera de ésteres cetílicos; Cera de ésteres del alcohol cetílico; Esperma de ballena sintético; Spermaceti Wax Replacement; Synthetic Spermaceti.

Воск Сложных Цетиловых Эфиров

CAS — 85566-24-1.

Pharmacopoeias. In *Int.* Also in *USNF.*
USNF 26 (Cetyl Esters Wax). A mixture consisting primarily of esters of saturated fatty alcohols (C_{14} to C_{18}) and saturated fatty acids (C_{14} to C_{18}). White to off-white somewhat translucent flakes with a crystalline structure and a pearly lustre when caked; it has a faint odour and is free from rancidity. M.p. 43° to 47°. Insoluble in water; practically insoluble in cold alcohol; soluble in boiling alcohol, in chloroform, in ether, and in fixed and volatile oils; slightly soluble in cold petroleum spirit. Store in a dry place at a temperature not exceeding 40°.

Profile

Cetyl esters wax is used mainly as a stiffening agent and emollient in creams and ointments. It is also used in the coating of some oral dosage forms. It is a synthetic replacement for natural spermaceti obtained from the sperm whale and the bottle-nosed whale.

Preparations

USP 31: Rose Water Ointment.

Proprietary Preparations (details are given in Part 3)

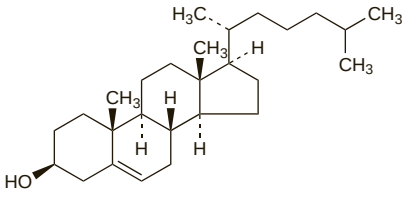
Multi-ingredient: ***Arg.:*** Cold Cream Naturel†.

Cholesterol

Cholesterin; Cholestérol; Cholesterolis; Cholesterolum; Colesterina; Colesterol; Kolesterol; Kolesteroli; Koleszterin; Koleszterin. Cholest-5-en-3β-ol.

Холестерин; Холестерол

$C_{27}H_{46}O$ = 386.7.
CAS — 57-88-5.



Pharmacopoeias. In *Eur.* (see p.vii) and *Jpn.* Also in *USNF.*
Ph. Eur. 6.2 (Cholesterol). A white or almost white, crystalline powder. It is sensitive to light. M.p. 147° to 150°. Practically insoluble in water; sparingly soluble in alcohol and in acetone. Protect from light.
USNF 26 (Cholesterol). White or faintly yellow, practically odourless, pearly leaflets, needles, powder, or granules. It acquires a yellow to pale tan colour on prolonged exposure to light. M.p. 147° to 150°. Insoluble in water; slowly soluble 1 in 100 of alcohol; soluble 1 in 50 of dehydrated alcohol; soluble in acetone, in chloroform, in dioxan, in ether, in ethyl acetate, in petroleum spirit, and in vegetable oils. Protect from light.

Profile

Cholesterol imparts water-absorbing power to pharmaceutical preparations and is used as an emulsifying agent. It has emollient activity and is used mainly in topical preparations. It is also used in ophthalmic and vaginal formulations, and in preparations for parenteral use.

Cholesteryl benzoate has been used as an ingredient in dermatological preparations.

Preparations

Proprietary Preparations (details are given in Part 3)
Fr.: Senophile†.

Multi-ingredient: ***Arg.:*** Liposomas; ***Belg.:*** Senophile; ***Chile:*** Perfungol.

Coconut Oil

Aceite de coco; Coco (huile de) raffinée; Cocois oleum raffinatum; Coconut Butter; Copra Oil; Finomított kókuszolaj; Hindistancevizi Yağı; Kokosolja, raffinerad; Kokosový olej čištěný; Kokosų aliejus, rafinuotas; Kookosöljy, puhdistettu; Oleum Cocois; Oleum Cocos Raffinatum; Oleum Cocosis.

Кокосовое Масло

CAS — 8001-31-8.

Pharmacopoeias. In *Eur.* (see p.vii), *Jpn.*, and *USNF.*
Ph. Eur. 6.2 (Coconut Oil, Refined). The refined fatty oil obtained from the dried, solid part of the endosperm of *Cocos nucifera*. A white or almost white, unctuous mass. M.p. 23° to 26°. Practically insoluble in water; very slightly soluble in alcohol; freely soluble in dichloromethane and in petroleum spirit (b.p. 65° to 70°). Store in well-filled containers. Protect from light.
USNF 26 (Coconut oil). The refined fixed oil obtained from the seeds of *Cocos nucifera*. A clear, white to light yellow-tan, viscous liquid. Practically insoluble in water; very slightly soluble in alcohol; freely soluble in dichloromethane and in light petroleum. M.p. 23° to 26°. Store in airtight, well-filled containers. Protect from light.

Profile

Coconut oil is used as a basis for topical creams and ointments, in rectal and vaginal suppositories, and in solid dosage forms. It is also used in food manufacturing. Topical preparations have been used for pediculosis.

Fractionated coconut oil (thin vegetable oil) is used as a source of medium-chain triglycerides (p.1956).

Hypersensitivity. Sensitivity reactions to coconut products, including coconut oil,[1] have been reported rarely. Cases of anaphylaxis have been reported.[2,3]

1. Couturier P, *et al.* Un cas d'allergie à l'huile de noix de coco chez un nourrisson: responsabilité des laits maternisés. *Allerg Immunol (Paris)* 1994; **26:** 386–7.
2. Rosado A, *et al*. Anaphylaxis to coconut. *Allergy* 2002; **57:** 182–3.
3. Nguyen SA, *et al*. Cross-reactivity between coconut and hazelnut proteins in a patient with coconut anaphylaxis. *Ann Allergy Asthma Immunol* 2004; **92:** 281–4.

Preparations

Proprietary Preparations (details are given in Part 3)
Ger.: Aesculo Gel L; ***UK:*** Nitlotion.

Multi-ingredient: ***Arg.:*** Tersoderm Cabellos Grasos†; ***Cz.:*** Nutralipid MCT†; ***Fr.:*** Biostop; ***Indon.:*** Minyak Telon; Minyak Telon Cap Tiga Anak; Yanthi Baby Oil; ***Mex.:*** Nutegen G†; ***NZ:*** Mr Nits; ***Turk.:*** Kataljin.

Emulsifying Wax

Anionic Emulsifying Wax; Cera emulgente; Cera Emulsificans; Cera emulsionante; Cetylanum; Emulsif. Wax.

Эмульгирующий Воск

CAS — 8014-38-8.

Pharmacopoeias. In *Br.* Also in *USNF.*
BP 2008 (Emulsifying Wax). It is prepared from 9 parts of cetostearyl alcohol and 1 part of sodium laurilsulfate or sodium salts of similar sulfated higher primary aliphatic alcohols. An almost white or pale yellow, waxy solid or flakes, becoming plastic when warmed, with a faint characteristic odour. Practically insoluble in water, forming an emulsion; partly soluble in alcohol.
USNF 26 (Emulsifying Wax). It is prepared from cetostearyl alcohol containing a polyoxyethylene derivative of a fatty acid ester of sorbitan. M.p. 50° to 54°. It is a creamy-white, wax-like solid, with a mild characteristic odour. Insoluble in water; soluble in alcohol; freely soluble in chloroform, in ether, in most hydrocarbon solvents, and in aerosol propellants.

Profile

Emulsifying wax added to fatty or paraffin bases facilitates the preparation of oil-in-water emulsions which are absorbed and are nongreasy when rubbed into the skin. It is a constituent of many hydrophilic ointment bases for so-called 'washable' ointments, and is also used in rectal preparations, and in cosmetics.

Sunscreen activity. Emulsifying ointment, which contains emulsifying wax with white soft paraffin and liquid paraffin, was found to have major sunscreen activity in clinically normal skin.[1] It should not be used before phototherapy or in phototesting procedures.

1. Cox NH, Sharpe G. Emollients, salicylic acid, and ultraviolet erythema. *Lancet* 1990; **335:** 53–4.

Preparations

BP 2008: Aqueous Cream; Emulsifying Ointment.

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***UK:*** Epaderm; Hydromol.

Hard Fat

Adeps Neutralis; Adeps solidus; Glicéridos semisintéticos sólidos; Glycérides hémi-synthétiques solides; Glycérides Semi-synthétiques Solides; Grasa sólida; Hårdfett; Hartfett; Kietieji riebalai; Kovarasva; Massa Estearínica; Neutralfett; Szilárd zsír; Tuk ztužený; Tłuszcz obojętny.

Твёрдый Жир

Pharmacopoeias. In *Eur.* (see p.vii) and *Int.* Also in *USNF.*
Ph. Eur. 6.2 (Hard Fat). A mixture of triglycerides, diglycerides, and monoglycerides obtained either by esterification of fatty acids of natural origin with glycerol or by transesterification of natural fats. A white or almost white, waxy, brittle mass. M.p. 30° to 45°; it does not differ by more than 2° from the nominal value. Practically insoluble in water; slightly soluble in dehydrated alcohol. When heated to 50°, it melts giving a colourless or slightly yellowish liquid. Protect from light and heat.
USNF 26 (Hard Fat). A mixture of glycerides of saturated fatty acids. A white mass, almost odourless and free from rancid odour, and greasy to the touch. M.p. is between 27° and 44° and does not differ by more than 2° from the nominal value. The melted substance is colourless or slightly yellowish and forms a white emulsion when shaken with an equal amount of hot water. Practically insoluble in water; slightly soluble in alcohol; freely soluble in ether. Store in airtight containers at a temperature 5° or more below the melting-point.

Profile

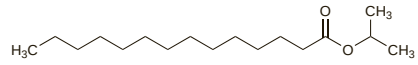
The name Hard Fat is applied to a range of bases with varying degrees of hardness and differing melting ranges used for the preparation of suppositories and vaginal pessaries. Hard fat is also used in some topical preparations.

Isopropyl Myristate *(USAN)*

Isopropyl myristát; Isopropyle, myristate d'; Isopropylis myristas; Isopropylmyristat; Isopropyylimyristaatti; Izopropil-miristát; Izopropilo miristatas; Izopropylu mirystynian; Miristato de isopropilo. Tetradecanoic acid 1-methylethyl ester; Isopropyl tetradecanoate.

Изопропилмиристат

$C_{17}H_{34}O_2$ = 270.5.
CAS — 110-27-0.



Pharmacopoeias. In *Eur.* (see p.vii). Also in *USNF.*
Ph. Eur. 6.2 (Isopropyl Myristate). A clear, colourless, oily liquid. Relative density about 0.853. Immiscible with water; miscible with alcohol, with dichloromethane, with fatty oils, and with liquid paraffin. Protect from light.
USNF 26 (Isopropyl Myristate). A clear practically colourless, almost odourless, oily liquid; congeals at about 5°. Insoluble in water, in glycerol and in propylene glycol; freely soluble in alcohol. Miscible with most organic solvents and with fixed oils. Store in airtight containers. Protect from light.

Incompatibility. Isopropyl myristate is incompatible with hard paraffin.

Profile

Isopropyl myristate is resistant to oxidation and hydrolysis and does not become rancid. It is absorbed fairly readily by the skin and is used as a basis for relatively nongreasy emollient ointments and creams. It is also used as a penetration enhancer for many substances applied externally as creams, sprays, or transdermal patches.

Other isopropyl fatty acid esters, including di-isopropyl adipate, isopropyl laurate, isopropyl linoleate, and isopropyl palmitate (below) have similar properties and are used for similar purposes to those of isopropyl myristate.

Hypersensitivity. A case of sensitivity to isopropyl myristate has been reported[1] in a 64-year-old woman. She developed a rash after using a sunscreen containing isopropyl myristate for 3 days, and patch testing confirmed a sensitivity both to this substance and to isohexadecane (a mixture of C_{16} paraffins).

1. Bharati A, King CM. Allergic contact dermatitis from isohexadecane and isopropyl myristate. *Contact Dermatitis* 2004; **50:** 256–7.

Preparations

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

Multi-ingredient: ***Hong Kong:*** Hydromol†; ***Irl.:*** Emulsiderm; Hydromol†; ***Israel:*** Emulsiderm; ***UK:*** Dermol; Diprobath; Doublebase; Emulsiderm; Full Marks Solution; Hydromol.