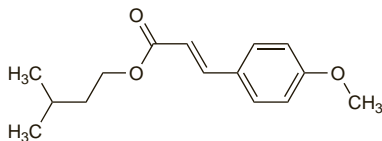


Amiloxate (USAN, rINN)

Amiloxato; Amiloxatum; E-1000; Isoamyl *p*-Methoxycinnamate. Isopentyl *p*-methoxycinnamate; 3-(4-Methoxyphenyl)-2-propenoic acid 3-methylbutyl ester:

АМИЛОКСАТ

$C_{15}H_{20}O_3 = 248.3$.
CAS — 71617-10-2.



NOTE. Neo-Heliopan E 1000 is a trade name that has been used for amiloxate.

Pharmacopoeias. In *US*.

USP 31 (Amiloxate). Store in airtight containers.

Profile

Amiloxate, a substituted cinnamate, is a sunscreen (p.1576) with actions similar to those of octinoxate (p.1608). It is effective against UVB light (for definitions, see p.1580).

Preparations

Proprietary Preparations some preparations are listed in Part 3.

Aminobenzoic Acid

Acide 4-Aminobenzoïque; Acidum 4-aminobenzoicum; Amben; 4-Aminobensoesyra; 4-Aminobentsoehappo; 4-aminobenzoësav; Aminobenzoico, ácido; 4-Aminobenzoiné rügštis; Kwas 4-aminobenzoësowy; Kyselina 4-aminobenzoová; PAB; PABA; Parabacidum; Para-aminobenzoic Acid; Vitamin Bx; Vitamin H'. 4-Aminobenzoic acid.

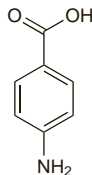
АМИНОБЕНЗОЙНАЯ КИСЛОТА

$C_7H_7NO_2 = 137.1$.

CAS — 150-13-0.

ATC — D02BA01.

ATC Vet — QD02BA01.



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

Ph. Eur. 6.2 (4-Aminobenzoic Acid; Aminobenzoic Acid BP 2008). White or slightly yellow crystalline powder. Slightly soluble in water; freely soluble in alcohol; it dissolves in dilute solutions of alkali hydroxides. Protect from light.

USP 31 (Aminobenzoic Acid). White or slightly yellow, odourless crystals or crystalline powder. It discolours on exposure to air or light. Slightly soluble in water and in chloroform; freely soluble in alcohol and in solutions of alkali hydroxides or carbonates; sparingly soluble in ether. Store in airtight containers. Protect from light.

Adverse Effects and Precautions

Adverse skin reactions such as local irritation and contact dermatitis have been reported after the topical use of aminobenzoate sunscreens. Aminobenzoate sunscreens should not be used by those with a history of photosensitivity or hypersensitivity reactions to structurally related drugs such as sulfonamides, thiazide diuretics, and ester-type local anaesthetics.

Aminobenzoic acid may stain clothing.

◊ Allergic and photoallergic contact dermatitis have been reported after topical use of aminobenzoic acid or its esters.¹ Early reports of such reactions led to the removal of these compounds from sunscreen preparations (many are now described as 'PABA-free'), although padimate O still appears to be widely used.² Patients allergic to aminobenzoic acid may also react to structurally related allergens such as para-aminobenzoic acid ester anaesthetics, sulfonamides, and paraphenylenediamine in hair dyes.^{1,2}

Skin reactions (vitiligo) have also been reported with oral aminobenzoic acid³ and the adverse effects associated with the former use of high oral doses for various conditions have been highlighted.⁴

1. Scheuer E, Warshaw E. Sunscreen allergy: A review of epidemiology, clinical characteristics, and responsible allergens. *Dermatitis* 2006; **17**: 3–11. Correction. *ibid.*; 162.

2. Mackie BS, Mackie LE. The PABA story. *Australas J Dermatol* 1999; **40**: 51–3.

The symbol † denotes a preparation no longer actively marketed

3. Hughes CG. Oral PABA and vitiligo. *J Am Acad Dermatol* 1983; **9**: 770.

4. Worobec S, LaChine A. Dangers of orally administered para-aminobenzoic acid. *JAMA* 1984; **251**: 2348.

Pharmacokinetics

If given orally, aminobenzoic acid is absorbed from the gastrointestinal tract. It is metabolised in the liver and excreted in the urine as unchanged drug and metabolites.

Uses and Administration

Aminobenzoic acid is applied topically as a sunscreen (p.1576). Aminobenzoic acid and its derivatives effectively absorb light throughout the UVB range but absorb little or no UVA light (for definitions, see p.1580). Aminobenzoate sunscreens may therefore be used to prevent sunburn, but are unlikely to prevent drug-related or other photosensitivity reactions associated with UVA light; combination with a benzophenone may give some added protection against such photosensitivity.

Aminobenzoic acid has sometimes been included as a member of the vitamin-B group, but deficiency of aminobenzoic acid in man or animals has not been found.

Aminobenzoic acid has been used with bentiromide (p.2264) in the PABA or BTPABA test of pancreatic function.

Preparations

USP 31: Aminobenzoic Acid Gel; Aminobenzoic Acid Topical Solution.

Proprietary Preparations some preparations are listed in Part 3.

Ammonium Lactate (USAN)

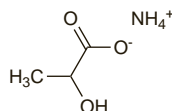
Amonio, lactato de; BMS-186091.

АММОНИЯ ЛАКТАТ

$C_3H_9NO_3 = 107.1$.

CAS — 52003-58-4.

ATC Vet — QA16QA04.

**Profile**

Ammonium lactate is a humectant applied as a cream or lotion containing 12% lactic acid neutralised with ammonium hydroxide. It is used in the treatment of dry scaly conditions of the skin including ichthyosis. Adverse effects of topical ammonium lactate preparations include transient erythema, burning, and stinging. Treated areas may be more sensitive to sunlight and exposure should be minimised.

Preparations

Proprietary Preparations (details are given in Part 3)

Arg.: Lacto-Cev; Lactrex; **Braz.:** Lac-Hydrin; **Canad.:** Lac-Hydrin; **Chile:** Kerapil†; Topilact 12†; **Fr.:** Kerapil†; **Malaysia:** Lanate; **Mex.:** Lac-Hydrin; **NZ:** Lac-Hydrin; Lanate; **Singapore:** Lac-Hydrin; Lanate; **USA:** Amlactin; Geri-Hydrolac; Kerasal AL; Lac-Hydrin; LAC-Lotion.

Multi-ingredient Arg.: Clobeplus; Clobesol LA; Lactiderm; Lactiderm HC†; Lacto-Cev Zn; Urecrem Hidro; **Braz.:** Lactrex; **Chile:** Ichtyosoft†; KPL†; Lactrex†; Queratopil; **Fr.:** I-Soft†; Ichtyosoft†; Keralac Plus†; Zeniac LP Fort†; Zeniac LP†; Zeniac†; **Indon.:** Exfoliac; **Ital.:** Alfa Acid; Ipso Urea; **Mex.:** Lactrex; **Port.:** Lactonico†; **Venez.:** Lactrex.

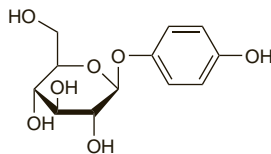
Arbutin

Arbutoside; Arbutyna; Beta-arbutin; Ursin. 4-Hydroxyphenyl-β-D-glucopyranoside.

Арбу́тин

$C_{12}H_{16}O_7 = 272.3$.

CAS — 497-76-7 (beta-arbutin); 84380-01-8 (alpha-arbutin).

**Profile**

Arbutin is a glycosylated derivative of hydroquinone (p.1598) extracted from bearberry (p.2263) and similar plants. It is used topically in concentrations of 1 to 5% as a depigmenting agent for the skin in hyperpigmentation disorders. The higher concentrations may lead to a paradoxical hyperpigmentation.

Alpha-arbutin has been used similarly.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient Arg.: Cellskinlab Phyto Spot; Melasoft†; **Chile:** Phyto Corrective Gel; Phyto Spot; **Port.:** Despigmentante.

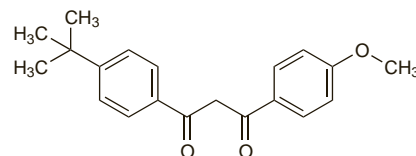
Avobenzon (USAN, rINN)

Avobenzona; Avobenzonum; Butylmethoxydibenzoylmethane; 4-tert-Butyl-4'-methoxydibenzoylmethane. 1-(*p*-tert-Butylphenyl)-3-(*p*-methoxyphenyl)-1,3-propanedione; 1-[4-(1,1-dimethylethyl)phenyl]-3-(4-methoxyphenyl)-1,3-propanedione.

АвоБЕНЗОН

$C_{20}H_{22}O_3 = 310.4$.

CAS — 70356-09-1.



NOTE. Escalol 517, Eusolex 9020, Neo-Heliopan 357, and Parsol 1789 are trade names that have been used for avobenzon.

Pharmacopoeias. In *US*.

USP 31 (Avobenzon). M.p. 81° to 86°. Store in airtight containers. Protect from light.

Profile

Avobenzon is a substituted dibenzoylmethane used by topical application as a sunscreen (p.1576). Dibenzoylmethanes absorb light in the UVA range (for definitions, see p.1580) and may therefore be used with other sunscreens that absorb UVB light to prevent sunburn; they will also provide some protection against drug-related or other photosensitivity reactions associated with UVA light.

Contact and photocontact allergic dermatitis has occasionally been reported with the topical use of dibenzoylmethane sunscreens.

Preparations

Proprietary Preparations numerous preparations are listed in Part 3.

Azelaic Acid (USAN, rINN)

Acide azélaïque; Ácido azelaico; Acidum azelaicum; Anchoic acid; Atselainihappo; Azelaik Asit; Azelainsyra; Lepargylic acid; ZK-62498. Nonanedioic acid; Heptane-1,7-dicarboxylic acid.

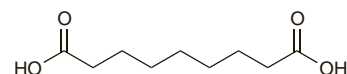
Азелаиновая Кислота

$C_9H_{16}O_4 = 188.2$.

CAS — 123-99-9.

ATC — D10AX03.

ATC Vet — QD10AX03.

**Adverse Effects and Precautions**

Topical application of azelaic acid may produce a transient skin irritation such as burning, stinging, pruritus, dryness, and scaling. It is usually mild and disappears on continued treatment, but in a few patients the irritation may persist, requiring reduced frequency of application or temporary suspension of treatment. There have been rare reports of hypopigmentation, rash, and photosensitivity. Azelaic acid should not be applied to the eyes, mouth, or other mucous membranes.

Uses and Administration

Azelaic acid inhibits the growth of *Propionibacterium* spp. and reduces keratinisation. It is used in the topical treatment of mild to moderate inflammatory acne (p.1577) and for the inflammatory papules and pustules of mild to moderate rosacea (p.1583). It has also been tried in hyperpigmentary skin disorders such as melasma, and in malignant melanoma.

In the treatment of **acne** azelaic acid is applied twice daily for up to 6 months as a 20% cream or 15% gel. Improvement usually occurs within four weeks.

For the treatment of mild to moderate **rosacea**, a 15% gel should be applied to the affected area twice daily