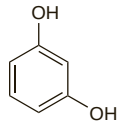
Resorcinol

m-Dihidroxibenceno; *m*-Dihydroxybenzene; Dioxybenzolum; Resorcin; Resorcina; Résorcinol; Resorcinolum; Resorsinoli; Rezorcin; Rezorcinolis; Rezorcynol. Benzene-1,3-diol.

Резорцинол

$C_6H_6O_2$ = 110.1.
CAS — 108-46-3.
ATC — D10AX02; S01AX06.
ATC Vet — QD10AX02; QS01AX06.



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

Ph. Eur. 6.2 (Resorcinol). Colourless or slightly pinkish-grey crystals or crystalline powder. M.p. 109° to 112°. It becomes red on exposure to air and light. Very soluble in water and in alcohol. Protect from light.

USP 31 (Resorcinol). White or practically white, needle-shaped crystals or powder with a faint characteristic odour. M.p. 109° to 111°. It acquires a pink tint on exposure to air and light. Soluble 1 in 1 of water and of alcohol; slightly soluble in chloroform; freely soluble in ether and in glycerol. A 5% solution in water is neutral or acid to litmus. Protect from light.

Incompatibility. Resorcinol is incompatible with ferric salts.

Resorcinol Monoacetate

Acetato de resorcina; Resorcin Acetate; Resorcinol, monoacetato de. 3-Acetoxyphenol.

Резорцинола Моноацетат

$C_8H_8O_3$ = 152.1.
CAS — 102-29-4.
ATC — D10AX02; S01AX06.
ATC Vet — QD10AX02; QS01AX06.

Pharmacopoeias. In *US.*

USP 31 (Resorcinol Monoacetate). A pale yellow or amber, viscous liquid with a faint characteristic odour. Sparingly soluble in water; soluble in alcohol and in most organic solvents. A saturated solution in water is acid to litmus. Store in airtight containers. Protect from light.

Adverse Effects, Treatment, and Precautions

Resorcinol is a mild irritant and may result in skin sensitisation. It should not be applied to large areas of the body, for prolonged periods, or in high concentrations, especially in children, as it is absorbed through intact skin as well as broken skin and may interfere with thyroid function or produce methaemoglobinaemia. Resorcinol may produce hyperpigmentation in patients with dark skins and may darken light-coloured hair. Systemic toxic effects of resorcinol are similar to those of phenol and are treated accordingly (see p.1656) but convulsions may occur more frequently.

Abnormal coloration. Resorcinol could cause green discoloration of the urine.[1]

1. Karlstrand J. The pharmacist and the ostomate. *J Am Pharm Assoc* 1977; **NS17:** 735–8.

Uses and Administration

Resorcinol has keratolytic properties and has been used, usually with sulfur, in topical preparations for the treatment of acne (p.1577) and seborrhoeic skin conditions (p.1584), although other treatments are generally preferred.

Resorcinol has also been used in preparations for the treatment of anorectal disorders often complexed with bismuth compounds (see Haemorrhoids, p.1697).

Resorcinol monoacetate has been used similarly but may provide a milder action with a longer duration.

Dentistry. Resorcinol powder added incrementally to a few drops of formaldehyde 40% solution to saturation and polymerised using 1 or 2 drops of sodium hydroxide 10% solution produces a hard red material, known as "Russian Red". This resin has been used in dentistry in eastern Europe, Russia, and China. Zinc oxide or barium sulfate is often added to the mixture before polymerisation to make it radio-opaque.[1]

1. Schwandt NW, Gound TG. Resorcinol-formaldehyde resin "Russian Red" endodontic therapy. *J Endod* 2003; **29:** 435–7.

Preparations

BPC 1973: Magenta Paint;
USP 31: Carbol-Fuchsin Topical Solution; Compound Resorcinol Ointment; Resorcinol and Sulfur Topical Suspension.

Proprietary Preparations (details are given in Part 3)
Chile: Dermobarrina; ***USA:*** Castel.

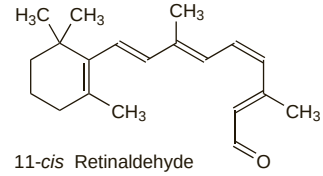
Multi-ingredient: ***Arg.:*** Acnomel†; Acnoxin; Bifena; Callicida†; Coltix†; Controlacne; Cutidermin†; Dermo Vagisil Crema; Ecnagel; Ecnagel E; Farmigras; Histidanol†; Nemegel†; Pinklot; Suffisance; ***Austral.:*** Acne & Pimple Gel†; Eskamel; Seborrol†; ***Austria:*** Wisamt†; ***Belg.:*** Synthol; ***Braz.:*** Pantevit; ***Canad.:*** Clearasil Acne Control; Clearasil Acne Cream; Lanacane Medicated Cream; Mazon Medicated Cream; Vagisil; ***Chile:*** Acnaid†; Antiacne†; Dermac Crema; ***Fr.:*** Anaxeryl; Bain de Bouche Lipha; Gelictar Fort; Nestosyl; Osmotol; Squaphane S; Synthol; ***Ger.:*** Jaikal†; Wisamt N†; ***Hong Kong:*** Acne-Aid; ***Hung.:*** Glycosept; ***Indon.:*** Bioacne; Rosal; Verile; ***Irl.:*** Anugesic-HC; Anusol-HC; ***Israel:*** Acnex†; Pitrisan; ***Ital.:*** Anusol; Blefarolin; Fucsina Fenica; Labocaina; Rinantipiol†; ***Malaysia:*** Acne-Aid; ***Mex.:*** Crema Axel†; Dermac; Dermocare; Dermoscalp; Jabon del Tio Nacho; Shampoo del Tio Nacho; ***NZ:*** Egomycol†; Lanacane; Seborrol†; ***Pol.:*** Afronis; Hemorectal; Pigmentum Castellani; ***Port.:*** Edoltar†; Resodermil; ***Rus.:*** Neo-Anusol (Нео-анузол); ***S.Afr.:*** Anugesic; Eskamel; ***Singapore:*** Acne Clear; Acne-Aid; ***Spain:*** Acnisdin; Dermomycose Liquido; Milrosina; Resorborina; ***Switz.:*** Clabin; Euproctol; Lotio decapans; ***Thai.:*** Anusol; Zema; ***Turk.:*** Buco Bleu; ***UK:*** Eskamel; ***USA:*** Acnomel; Bensulfoid; Bicozene; Castaderm; Dermarest; Fungi-Nail; Heal Aid Plus; RA Lotion; Rezamid; Sulforcin; Unguentine Maximum Strength; Vagisil; ***Venez.:*** Alderil†; Klenyl.

Retinaldehyde

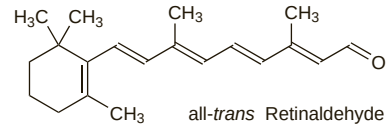
Retinal; Retinene; Vitamin A Aldehyde.

Ретинальдегид

$C_{20}H_{28}O$ = 284.4.
CAS — 116-31-4.



11-*cis* Retinaldehyde



all-*trans* Retinaldehyde

Profile

Retinaldehyde is a derivative of vitamin A (p.1971) that has been used in preparations for skin disorders.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Ystheal; ***Chile:*** Ystheal.

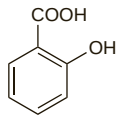
Multi-ingredient: ***Arg.:*** Diacneal; Diroseal; ***Chile:*** Diacneal; Diroseal; ***Fr.:*** Diroseal; ***Venez.:*** Diacneal.

Salicylic Acid

Acide salicylique; Acido Ortóxibenzoico; Acidum salicylicum; Kwas salicylowy; Kyselina salicylová; Salicílico, ácido; Salicilo rūgštis; Salicylsyra; Salisilik Asit; Salisyylihappo; Salizylsäure; Szalicilsav. 2-Hydroxybenzoic acid.

Салициловая Кислота

$C_7H_6O_3$ = 138.1.
CAS — 69-72-7.
ATC — D01AE12; S01BC08.
ATC Vet — QD01AE12; QS01BC08.



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

Ph. Eur. 6.2 (Salicylic Acid). White or colourless acicular crystals or a white or almost white, crystalline powder. Slightly soluble in water; freely soluble in alcohol; sparingly soluble in dichloromethane. Protect from light.

USP 31 (Salicylic Acid). White crystals, usually in fine needles or a white, fluffy, crystalline powder. The synthetic form is white and odourless but if prepared from natural methyl salicylate it may have a slightly yellow or pink tint, and a faint, mint-like odour. Soluble 1 in 460 of water, 1 in 15 of boiling water, 1 in 3 of alcohol, 1 in 45 of chloroform, 1 in 3 of ether, and 1 in 135 of benzene.

Adverse Effects and Precautions

Salicylic acid is a mild irritant and application of salicylic acid preparations to the skin may cause dermatitis. Preparations containing high concentrations of salicylic acid can cause skin ulceration or erosion; healthy skin surrounding warts, corns, and calluses should be protected with soft paraffin or specially designed plasters when such preparations are being used. Salicylic acid should be used with care on the extremities of patients with impaired peripheral circulation or diabetes; caution has also been suggested if caustic preparations are used in patients with significant peripheral neuropathy. The drug is readily absorbed through the skin, and symptoms of acute systemic salicylate poisoning (see Aspirin, p.20) have been reported after excessive use; deaths have occurred, mainly in children. To minimise absorption after topical application salicylic acid should not be used for prolonged periods, in high concentrations, on large areas of the body, or on inflamed or broken skin. Contact with mouth, eyes, and other mucous membranes should be avoided.

Uses and Administration

Salicylic acid has **keratolytic** properties and is applied topically in the treatment of hyperkeratotic and scaling skin conditions such as dandruff and seborrhoeic dermatitis (p.1584), ichthyosis (p.1580), psoriasis (p.1583), and acne (p.1577). Preparations usually contain between 2 and 6% salicylic acid, but a wider range of concentrations has been used. It is often used with other drugs, notably coal tar.

Preparations containing up to 60% salicylic acid have been used as a **caustic** for the removal of plantar warts (p.1584), corns, or calluses; surrounding healthy skin should be protected (see above).

Salicylic acid also possesses **fungicidal** properties and is used topically in the treatment of dermatophyte skin infections (see p.521); propyl salicylate and bromosalicylic acid have been used similarly.

Zinc salicylate has been used similarly to salicylic acid in the treatment of seborrhoeic dermatitis and acne.

Preparations

BP 2008: Coal Tar and Salicylic Acid Ointment; Compound Benzoic Acid Ointment; Dithranol Paste; Salicylic Acid Collodion; Salicylic Acid Ointment; Zinc and Salicylic Acid Paste;
BPC 1973: Salicylic Acid and Sulphur Ointment;
USP 31: Benzoic and Salicylic Acids Ointment; Salicylic Acid Collodion; Salicylic Acid Gel; Salicylic Acid Plaster; Salicylic Acid Topical Foam; Zinc Oxide and Salicylic Acid Paste.

Proprietary Preparations (details are given in Part 3)
Arg.: Callicida; Desconphar†; Duofilm; Duoforte; Koal; Neo A-V; Renovate†; Salpad; Verrutopic AS; Verrutrix; Verruxane†; ***Austral.:*** Clear Away†; Clearasil Medicated Wipes; Duofilm; Egozite Cradle Cap; Ionil; John Plunketts Sunspot Cream; Johnsons Clean & Clear Skin Balancing Moisturiser; Sunspot; ***Austria:*** Squamasol; ***Belg.:*** Anticors Diable Vert; Compeedmed; Duofilm; Sicombyl; ***Braz.:*** A Curitybina; Clean & Clear Gel Secativo; Clean & Clear Hidratante; Clean & Clear Locao Adstringente; Clean & Clear Sabonete Liquido Refrecante†; Denorex Daily†; Denorex Plus†; Duoforte†; Ionil; Neutrogena Antiacne; Salipads†; Verrux; ***Canad.:*** Acne Solutions; Acnex†; Anti-Acne Control Formula†; Blemish Control; Carnation; Clean & Clear Blackhead Clearing Astringent; Clean & Clear Continuous Control Acne Wash; Clean & Clear Deep Cleaning Astringent†; Clean & Clear Invsible Blemish Treatment; Clearasil Cleanser; Clearasil Clearstick†; Clearasil Pads†; Clearasil Stayclear†; Clearskin Acne Defense Stick†; Clearskin Cleansing; Clearskin Medicated Wash†; Clearskin Overnight Acne Treatment†; Clearskin Targeted Blemish Remover; Compound W; Compound W Plus; Dermarest; Duofilm; Duoforte; Fixo†; Freezone; Herbal Essences Anti-Dandruff; Johnsons Clean & Clear Dual Action Moisturizer†; Johnsons Clean & Clear Pore Prep†; NeoStrata Astringent Acne Treatment†; Neutrogena Acne Wash; Neutrogena Clear Pore; Neutrogena Healthy Scalp Anti-Dandruff†; Neutrogena Skin Cleaning†; Neutrogena Soothing Gel Astringent†; Occlusal†; Off-Ezy; Oxy Daily Cleaning Pads; Oxy Daily Facial Cleanser Deep Pore; Oxy Finishing Toner†; Oxy Medicated Pads†; Propa PH†; Scholl 2-Drop Corn Remedy; Scholl Callus Remover; Scholl Clear Away†; Scholl Corn Remover; Scholl One Step†; Scholl Zino†; Sebcur; Soluver; Soluver Plus; Trans-Plantar; Trans-Ver-Sal; X-Seb; ***Chile:*** DHS Sal; Duoplant Gel; Eucerin Piel Grasa; Mediklin; Neutrogena Acondicionador Neutar Gel; Neutrogena Gel Control Brillo; Neutrogena Linea Acne; Quitacallos; Trans-Plantar†; Trans-Ver-Sal†; ***Cz.:*** Bukosan†; Callous; Seal & Heal†; Sophtal-POS N; Spofaplast; Urgocor; Verruca Removal; ***Denm.:*** Psorimed; Salicyl; ***Fr.:*** A-Derma Pain Salicylique†; Antalyre; Ciella; Coricide le Diable; Disques Coricides; Feuille de Saule; Kertyol; Optrex; Pansements Coricides†; Pommade Mo Cochon; Sanitos; Sophtal; Transvercid; ***Ger.:*** Aknefug-liquid; Gehwol Huhneraugen-Pflaster extra stark; Gehwol Schalpaste; Guttaplast†; Hansaplast Hornhaut-Pflaster†; Hansaplast Huhneraugen-Pflaster†; Humopin N†; Lygal Kopfsalbe N; Psorimed; Schrundensalbe Dermi-cyl; Sophtal-POS N; Squamasol; Urgo Activ Huhneraugenpflaster†; Verrucid; ***Gr.:*** 2-Drop; Adaptoplast; Apsoderm; Callifugo; Gallifugo†; Hansaplast Callous; Psorimed†; Salicyd; Salipsor; Solimed; Zino; ***Hong Kong:*** Duofilm; Egozite Cradle Cap; ***Hung.:*** Hansaplast; ***Indon.:*** Topix; Yodsaben; ***Irl.:*** Acnisal; Compound W; Occlusal; Psorimed†; Saliker†; Vericaps; ***Israel:*** Clearex; Clearex for Sensitive Skin; Salikaren; Scholl Corn/Callous Removers; ***Ital.:*** Keranon; Salicil; Trans-Ver-Sal; ***Malaysia:*** Clearasil 3 in 1 Deep Cleansing Wash; Clearasil Ice Wash; Clearasil Ultra Deep Pore; Egozite Cradle Cap; Palmer's Skin Success Acne Medication; ***Mex.:*** Duoplant; Excelsior†; Ionil Plus; Ionil†; Trans-Ver-Sal; ***Neth.:*** Formule W; Psonimed; ***NZ:*** Duofilm; Egozite Cradle Cap; ***Philipp.:*** Ionil; Wart-Off; ***Pol.:*** Callous; Corn; Corn and Callous; Keratolysin; Masc przeciw Odciskom i Zgrubieniom Skory; Saliderm; Seal & Heal; Soft Corn; Urgo Cor; ***Port.:*** Psorimed; Transvercid; Urgocor; Verrufilm; Verucid†; ***S.Afr.:*** Compound W; Cross Brand Corn Plasters; Emzaclear; Freezone; Jiffy Medi+ Plus; Piccadilly Foot Ointment; SB Unola Corn Remover; Yalta Corn Salve; ***Singapore:*** Clearasil 3 in 1; Clearasil Ice Wash; Duofilm; ***Spain:*** Callicida Gras; Callicida Salve; Callofin; Cornina†; Unguento Morry; Urgocall†; Verrupatch; Verruplan; ***Swed.:*** Salsyvase; ***Switz.:*** Scholl Warzenfilm; Verrufilm†; ***Turk.:*** Nasiral; Salsil; Scholl Callous; ***UK:*** Acnisal; Carnation; Clearasil Double Action Pads; Compound W; Occlusal; Pickles Foot Ointment; Scholl Callus Removal; Scholl Corn Removal; Scholl Verucca Removal; SCR; Snufflebabe Cradle Cap; Verrugon; Wartex; ***USA:*** Clearasil Clearstick; Compound W;

Dr Scholl's Callus Removers; Dr Scholl's Clear Away; Dr Scholl's Corn Removers; Dr Scholl's Corn/Callus Remover; Dr Scholl's Wart Remover; Duofilm; Duoplant; Fostex Acne Medication Cleansing; Freezone; Gordofilm; Hydrisalic; Ionil; Ionil Plus; Keralyt; Mediplast; MG217 Sal-Acid; Mosco; Occlusal; Off-Ezy; Oxy Night Watch; P & S; Panscol; PropapH; Psor-a-set; Sal-Acid; Sal-Plant; Salac; Salactic Film; Salex; Salkera; Sebucare†; Stri-Dex Clear; Trans-Ver-Sal AdultPatch; Trans-Ver-Sal PediaPatch; Trans-Ver-Sal PlantarPatch; Wart Remover; Wart-Off; X-Seb; ***Venez.:*** Acnil; Ven Hex†.

Multi-ingredient: numerous preparations are listed in Part 3.

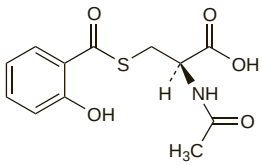
Salnacedin *(USAN, rINN)*

G-201; Salnacedina; Salnacédine; Salnacedinum; SCY. *N*-Acetyl-L-cysteine salicylate.

Сальнацедин

$C_{12}H_{13}NO_5S$ = 283.3.

CAS — 87573-01-1.



Profile

Salnacedin has anti-inflammatory and keratolytic properties and is applied topically in the treatment of seborrhoeic dermatitis and acne.

Preparations

Proprietary Preparations (details are given in Part 3)
Port.: Encaskin Creme†; Encaskin Detergente†; ***Switz.:*** Encaskin Cream; Encaskin Liquid Detergent.

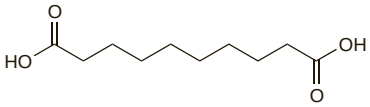
Sebacic Acid

Ácido decanodioico; Sebácico, ácido. Decanedioic acid; Octane-1,8-dicarboxylic acid.

Себациновая Кислота

$C_{10}H_{18}O_4$ = 202.2.

CAS — 111-20-6.



Profile

Sebacic acid may be used as a buffering agent in cosmetic preparations. Some of its esters, such as diethyl sebacate ($C_{14}H_{26}O_4$ = 258.4) and diisopropyl sebacate ($C_{16}H_{30}O_4$ = 286.4) may be used as emollients.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Port.:*** Pirrolfungin†.

Selenium Sulfide

Seleenidisulfidi; Selendisulfid; Seleni Disulfidum; Selenii disulfidum; Selenio, sulfuro de; Sélénium, disulfure de; Selenium Disulphide; Selenium Sulphide; Seleno disulfidas; Sulfid seleničitý; Szelén-diszulfd.

Сульфид Селения

SeS_2 = 143.1.

CAS — 7488-56-4.

ATC — D01AE13.

ATC Vet — QD01AE13.

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, and *US.*
Ph. Eur. 6.2 (Selenium Disulphide; Selenium Sulphide BP 2008). A bright orange to reddish-brown powder. Practically insoluble in water.
USP 31 (Selenium Sulfide). A bright orange to reddish-brown powder with not more than a faint odour. Practically insoluble in water and in organic solvents; soluble 1 in 161 of chloroform and 1 in 1667 of ether.

Adverse Effects, Treatment, and Precautions

Topical application of selenium sulfide can produce irritation of the scalp and skin, especially in the genital area and skin folds. Treated areas should be rinsed thoroughly to reduce inflammation, and contact with the eyes should be avoided. Oiliness or dryness of the scalp or hair, hair discoloration, and hair loss have been reported. Selenium sulfide shampoos should not be used within 48 hours of applying hair colours or straightening or waving preparations. Selenium sulfide may discolour metals.

Only traces of selenium sulfide are absorbed through intact skin but prolonged use on broken skin has resulted in systemic toxicity. To minimise absorption it should not be applied to mucous membranes or to skin that is inflamed or damaged. Toxicity is expected to be low from the ingestion of shampoos containing selenium sulfide. Nausea, vomiting, and diarrhoea may occur and gastrointestinal decontamination is generally considered unnecessary, but systemic absorption and toxicity, particularly neurological effects, might develop if large amounts are retained in the gut.

Systemic toxicity. A woman with excoriated eruptions on her scalp developed weakness, anorexia, abdominal pain, vomiting, tremors, sweating, a metallic taste in her mouth, and a garlic-like smell on her breath after using a shampoo containing selenium sulfide 2 or 3 times weekly for 8 months.[1] All symptoms subsided 10 days after the shampoo was stopped.

1. Ransone JW, *et al.* Selenium sulfide intoxication. *N Engl J Med* 1961; **264:** 384–5.

Uses and Administration

Selenium sulfide has antifungal and antiseborrhoeic properties. It is used topically in the treatment of dandruff (pityriasis capitis) and seborrhoeic dermatitis of the scalp (p.1584). Five to 10 mL of a lotion or shampoo containing 2.5% of selenium sulfide is applied to the wet scalp; the hair is rinsed and the application repeated; the preparation should remain in contact with the scalp for 2 to 3 minutes each time. The hair should be well rinsed after the treatment and all traces of the preparation removed from the hands and nails. Applications are usually made twice weekly for 2 weeks, then once weekly for 2 weeks and then only when necessary. Shampoos and lotions containing 1% are also used.

Selenium sulfide is also used as a 2.5% lotion in the treatment of pityriasis versicolor (see Skin Infections, p.521). The lotion may be applied to the affected areas with a small amount of water and allowed to remain for 10 minutes before thorough rinsing. This procedure is repeated once daily for about 7 days. Alternatively undiluted 2.5% lotion has been applied at bedtime and washed off in the morning on 3 separate occasions at 3-day intervals.

Selenium sulfide has also been used as an adjunct to the systemic treatment of tinea capitis (see Dermatophytoses under Skin Infections, p.521).

Preparations

BP 2008: Selenium Sulphide Scalp Application;
USP 31: Selenium Sulfide Topical Suspension.

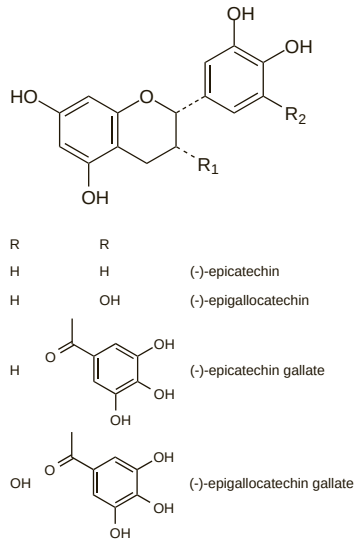
Proprietary Preparations (details are given in Part 3)
Arg.: Selsun†; ***Austral.:*** Selsun; ***Austria:*** Selsun; STOI-X; ***Belg.:*** Selsun; ***Braz.:*** Caspacil; Selsun; ***Canad.:*** Head & Shoulders Intensive Treatment; Selsun; Versel; ***Chile:*** Selsun; ***Denm.:*** Selenol; Selsun†; ***Fin.:*** Selsun; Selukos; ***Fr.:*** Selsun; ***Ger.:*** Selsun; Selukos†; ***Gr.:*** Selsun; ***Hong Kong:*** Selsun; ***Indon.:*** Selsun; Topisel; ***Irl.:*** Selsun; ***Israel:*** Sebosel; Selsun; ***Ital.:*** Selsun Blu; ***Malaysia:*** Sellon; Selsun†; ***Neth.:*** Selsun; ***Norw.:*** Selsun; Selukos; ***NZ:*** Selsun; ***Philipp.:*** Selsun Blue; ***Pol.:*** Selsun; ***Port.:*** Finitor; Selenix; ***S.Afr.:*** Selsun†; ***Singapore:*** Seldron; ***Spain:*** Abbottselsun; Bioselenium; Caspiselenio; ***Swed.:*** Selsun; Selukos; ***Switz.:*** Selsun; ***Thai.:*** Sebosel; Selfide; Selsun; ***UK:*** Selsun; ***USA:*** Exsel†; Head & Shoulders Intensive Treatment; Selsun; ***Venez.:*** Selegel; Seltrex†.

Multi-ingredient: ***Arg.:*** Selegel; ***Canad.:*** Selsun with Provitamin B †; ***Fr.:*** Selegel; Vichy Dercos Shampooing Antipelliculaire; ***Ger.:*** Ellsurex; ***India:*** Candid-TV; ***Ital.:*** Selsun Plus†; ***Spain:*** Sebumselen; ***Switz.:*** Ektoselene; ***Venez.:*** Selenil.

Sinecatechins *(USAN)*

Kunecatechins. A mixture whose major constituents are (–)-epicatechin, (–)-epigallocatechin, the corresponding 3-gallate esters, and their corresponding epimers.

CAS — 811420-59-4 (sinecatechins); 490-46-0 ((–)-epicatechin); 1257-08-5 ((–)-epicatechin 3-O-gallate); 970-74-1 ((–)-epigallocatechin); 989-51-5 ((–)-epigallocatechin 3-O-gallate).



R	R	
H	H	(-)-epicatechin
H	OH	(-)-epigallocatechin
H		(-)-epicatechin gallate
OH		(-)-epigallocatechin gallate

Profile

Sinecatechins is a mixture of complex polyphenols extracted from green tea leaves. Although its mechanism of action is unclear, sinecatechins is used in the treatment of external genital and perianal warts (p.1584). A 15% ointment is applied 3 times daily until complete clearance of all warts, but for no longer than 16 weeks. Local adverse effects are common with the topical application of sinecatechins and include erythema, pruritus, burning, pain or discomfort, erosion or ulceration, oedema, induration, and vesicular rash. Less common effects include urethritis, pigmentation changes, and hyperaesthesia.

◊ References.

1. Gross G, *et al.* A randomized, double-blind, four-arm parallel-group, placebo-controlled phase II/III study to investigate the clinical efficacy of two galenic formulations of Polyphenon E in the treatment of external genital warts. *J Eur Acad Dermatol Venereol* 2007; **21:** 1404–12.
2. Anonymous. Veregen: a botanical for treatment of genital warts. *Med Lett Drugs Ther* 2008; **50:** 15–16.
3. Gross G. Polyphenon E: Eine neue topische Therapie für Condylomata acuminata. *Hautarzt* 2008; **59:** 31–5.
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Preparations

Proprietary Preparations (details are given in Part 3)
Ital.: Epinerve; ***USA:*** Veregen.

Skin Substitutes

Sustitutos de la piel.

Profile

Biological and semisynthetic materials have been developed for use as temporary dressings in burns, ulcers, and other injuries associated with skin loss. The rationale is to prevent fluid and heat loss, to reduce infection, to protect exposed structures, to reduce pain, and to prepare the site for grafting (see Burns, p.1578, and Wounds and Ulcers, p.1585).

Denatured porcine and bovine skin, consisting of the dermal and/or epidermal layers, have been used. More recently bioengineered human skin equivalents have been produced which more closely mimic human skin, as well as human, living dermal replacement products.

◊ Reviews.

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3. Bar-Meir E, *et al.* Skin substitutes. *Isr Med Assoc J* 2006; **8:** 188–91.
4. Hrabchak C, *et al.* Biological skin substitutes for wound cover and closure. *Expert Rev Med Devices* 2006; **3:** 373–85.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Kytinon Lamina†; Kytinon Membrana†; Pel Cupron†; ***S.Afr.:*** Dermagraft; ***UK:*** Dermagraft; Myskin; TransCyte; ***USA:*** Apligraf; Dermagraft; Orcel; TransCyte.

Multi-ingredient: ***Arg.:*** Kytinon ABC†; Kytinon ARHI†; Kytinon ATM†.