

**Resorcinol**

*m*-Dihydroxybenzene; *m*-Dihydroxybenzene; Dioxymol; Resorcinol; Resorcina; Résorcinol; Resorcinolum; Resorsinoli; Resorzorin; Rezorcinalis; Rezorcynol. Benzene-1,3-diol.

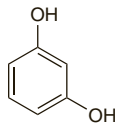
Резорцинол

$C_6H_6O_2 = 110.1$ .

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, monoacetate 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 methaemoglobinemia. 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.<sup>1</sup>

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.<sup>1</sup>

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; Histi-danol†; Nemeigel†; Pimklot; Sulfisance; **Austral:** Acne & Pimple Gel†; Eskamel; Sebomrol†; **Austria:** Wisam†; **Belg:** Synthol; **Braz:** Pantevit; **Canada:** Clearasil Acne Control; Clearasil Acne Cream; Lanacane Medicated Cream; Mazon Medicated Cream; Vagisil; **Chile:** Acnaid†; Antiacne†; Dermac Crema; **Fr:** Anaxeryl; Bain de Bouche Lipha; Gelicitar Fort; Nestosyl; Osmotol; Squaphane S; Synthol; **Ger:** Jaikal†; Wisam N†; **Hong Kong:**

Acne-Aid; **Hung:** Glycosept; **Indon:** Bioacne; Rosal; Verile; **Ir:** Anugestic-HC; Anusol-HC; **Israel:** Acnex†; Pitrisan; **Ital:** Anusol; Biefaloin; Fucisina Fenica; Labocaina; Rinantiol†; **Malaysia:** Acne-Aid; **Mex:** Crema Axell†; Dermac; Dermocare; Dermoscalp; Jabon del Tio Nacho; Shampoo del Tio Nacho; **NZ:** Egomycol†; Lanacane; Sebomrol†; **Pol:** Afromis; Hemorectal; Pigmentum Castellani; **Port:** Edoltar†; Resodermil†; **Rus:** Neo-Anusol (Neo-анусол); **S.Afr:** Anugestic; Eskamel; **Singapore:** Acne Clear; Acne-Aid; **Spain:** Acnisdin; Dermomyose Liquido; Milrosina; Resorborina; **Switz:** Clabin; Euproctol; Lotic decapans; **Thai:** Anusol; Zema; **Turk:** Buce Bleu; **UK:** Eskamel; **USA:** Acnomel; Bensulfidol; Bicozene; Castadem†; Dermarest; Fungi-Nail; Heal Aid Plus; RA Lotion; Reznamid; Sulfuricin; Unguentine Maximum Strength; Vagisil; **Venez:** Aldenif†; Klenyl.

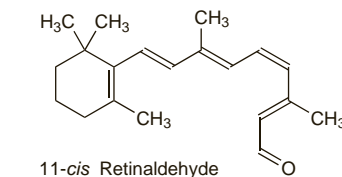
**Retinaldehyde**

Retinal; Retinene; Vitamin A Aldehyde.

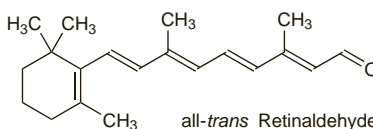
Ретинальдегид

$C_{20}H_{28}O = 284.4$ .

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 Ortóxicoibenzoico; Acidum salicylicum; Kwasa salicylowy; Kyselina salicylová; Salicílico, ácido; Salicilo rūgštis; Salicylsyra; Salisilik Asit; Salisylihapo; Salizylsäure; Szalicilsav. 2-Hydroxybenzoic acid.

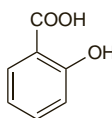
Салициловая Кислота

$C_7H_6O_3 = 138.1$ .

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 pa-

tients 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 Colloidion; Salicylic Acid Ointment; Zinc and Salicylic Acid Paste;

**BPC 1973:** Salicylic Acid and Sulphur Ointment;

**USP 31:** Benzoic and Salicylic Acids Ointment; Salicylic Acid Colloidion; 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; Desconpar†; Duofilm; Duoforte; Koal; Neo A-V; Renovate†; Salpad; Verrutopic AS; Verrutrix; Verruxan†; **Austral:** Clear Away†; Clearasil Medicated Wipes; Duofilm; Egzozite Cradle Cap; Ionil; John Plunketts Sunspot Cream; Johnsons Clean & Clear Skin Balancing Moisturiser; Sunspot; **Austria:** Squamasol; **Belg:** Anticors Diable Vert; Compedmed; Duofilm; Sicombyl; **Braz:** A Curitybina; Clean & Clear Gel Secativo; Clean & Clear Hidratante; Clean & Clear Locao Astringente; Clean & Clear Sabonete Liquido Refrescante†; Denorex Daily†; Denorex Plus†; Duoforte†; Ionil; Neurogena Antiacne; Salipads†; Verrux; **Canada:** Acne Solutions; Acnex†; Anti-Acne Control Formula†; Blemish Control; Carnation; Clean & Clear Blackhead Clearing Astringent; Clean & Clear Continuous Control Acne Wash; Clean & Clear Deep Cleansing Astringent†; Clean & Clear Invisible 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†; Neurogena Acne Wash; Neurogena Clear Pore; Neurogena Healthy Scalp Anti-Dandruff†; Neurogena Skin Cleansing†; Neurogena 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; Medikim; Neurogena Acondicionador Neutar Gel; Neurogena Gel Control Brillo; Neurogena Linea Acne; Quitacallous; Trans-Plantar†; Trans-Ver-Sal†; **Cz:** Bukosan†; Callous; Seal & Heal†; Soptal-POS N; Spofaplast; Ungorco; Verruca Removal; **Denm:** Psorimed; Salicyl; **Fr:** A-Derma Pain Salicylique†; Antalyre; Ciella; Conicide le Diable; Disques Conicides; Feuille de Saule; Kertyol; Optrex; Pansements Conicides†; Pommade Mo Cochon; Sanitos; Soptal; Transvercid; **Ger:** Aknetug-Liquid; Gehwol Huhnereugen-Pflaster extra stark; Gehwol Schalpaste; Guttaplast†; Hansaplast Hornhaut-Pflaster†; Hansaplast Huhnereugen-Pflaster†; Humopin N†; Lygal Kopsalbe N; Psorimed; Schrundensalbe Dermi-cyol; Soptal-POS N; Squamasol; Urgo Activ Huhnereugenpflaster†; Verrucid; **Gr:** 2-Drop; Adaptoplast; Apoderm; Callifugo; Gallifugo†; Hansaplast Callous; Psorimed†; Salicyl; Salipso; Solimed; Zino; **Hong Kong:** Duofilm; Egzozite Cradle Cap; **Hung:** Hansaplast; **Indon:** Topix; Yodsaban; **Ir:** Acnasil; Compound W; Occlusal; Salicylic†; Salikert; Vericaps; **Israel:** Clearax; Clearax for Sensitive Skin; Salikaren; Scholl Corn/Callous Removers; **Ital:** Keranon; Salici; Trans-Ver-Sal; **Malaysia:** Clearasil 3 in 1 Deep Cleansing Wash; Clearasil Ice Wash; Clearasil Ultra Deep Pore; Egzozite Cradle Cap; Palmer's Skin Success Acne Medication; **Mex:** Duoplast; Excelsior†; Ionil Plus; Ionil†; Trans-Ver-Sal; **Neth:** Formule W; Psorimed; **NZ:** Duofilm; Egzozite Cradle Cap; **Philipp:** Ionil; Wart-Off; **Pol:** Callous; Corn; Corn and Callous; Keratolysin; Masc preczinc Odiskom i Zgrubieniom Skory; Saliderm; Seal & Heal; Soft Corn; Urgo Corn; **Port:** Psorimed; Transvercid; Ungorco; Verrucifilm; Verucid†; **S.Afr:** Compound W; Cross Brand Corn Plasters; Emzaclef; 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; Callifino; Cornina†; Unguento Morry; Ungorcall†; Verrupast; Verruplan; **Swed:** Salsyvasve; **Switz:** Scholl Warzenfilm; Verrucifilm†; **Turk:** Nasiral; Salsil; Scholl Callous; **UK:** Acnasil; Carnation; Clearasil Double Action Pads; Compound W; Occlusal; Pickles Foot Ointment; Scholl Callous Removal; Scholl Corn Removal; Scholl Verruca Removal; SCR; Snuffelbabe Cradle Cap; Verrugon; Wartex; **USA:** Clearasil Clearstick; Compound W;