

caltrol; **Irl.**: Calcijex; One-Alpha; Rocaltrol; Silkis; Zemplar; **Israel**: Alpha D3; Calcijex; One-Alpha; **Ital.**: Alpha D3; Atiten; Calcijex; Dediol; Deril; Dibase; Didrogyl; Difix; Diseon; Disernat; Geniad; Ostelin; Ostidil-D3; Rocaltrol; Sefal; Silkis; Tridelat; Trikal; Zemplar; **Jpn.**: Alfalor; Hormel; Onealfa; Oxarol; Rocaltrol; **Malaysia**: Calcijex; Fainy; Aden; One-Alpha; Osteocap; Rocaltrol; Rocaltrol; Zemplar; **Mex.**: Alfad; Altral; Altrol; Calcioform; Gelider; Lemyntol; Rocaltrol; Silkis; Tirocal; Zemplar; Zygium; **Neth.**: Calcijex; Devaron; Dihydral; Etalpath; Rocaltrol; Silkis; Zemplar; **Norw.**: Afl-D; Calcijex; Etalpath; Rocaltrol; Silkis; Zemplar; **NZ**: Cal-D; One-Alpha; Rocaltrol; **Philipp.**: Bon-One; Osteomeg; Rocaltrol; Silkis; **Pol.**: Alfadiol; Calcijex; Devikap; Devisol; Juvit D; Kalcynol; Rocaltrol; Silkis; Vigantol; Vigantolettin; **Port.**: Calcijex; Dedrogyl; Etalpath; Rocaltrol; Silkis; Vigantol; Zemplar; **Rus.**: Alpha D3 (Альфа Д3-тев); Aquadetrim (Аквадетрим); Etalpath (Эталфа); Osteonol (Остеонол); Tachystin (Тачистин); Vigantol (Вигантол); **S.Afr.**: AT 10; One-Alpha; Rocaltrol; **Singapore**: Alpha D3; Bon-One; Bonegreen; Calcijex; One-Alpha; Rocaltrol; Rocaltrol; Silkis; Zemplar; **Spain**: Calcijex; Etalpath; Hydroferol; Osteofort; Rocaltrol; Silkis; Zemplar; **Swed.**: Calcijex; Devitrex; Dydragyl; Etalpath; Rocaltrol; Zemplar; **Switz.**: AT 10; Rocaltrol; Calcijex; Rocaltrol; Silkis; Vi-De; Zemplar; **Thail.**: Alpha D3; Bon-One; Calcit; Decostrol; Meditrol; One-Alpha; Osteo-D; Rocaltrol; **Turk.**: Alpha D3; Calcijex; Devit-3; One-Alpha; Osteo-D; Rocaltrol; **UK**: AT 10; Calcijex; One-Alpha; Rocaltrol; Silkis; Zemplar; **USA**: Calcijex; Calcijex; Calderol; Delta-D; DHT; Drisdol; Hectrol; Hytakerol; Maximum D3; Rocaltrol; Zemplar; **Venez.**: Alpha D3; Rocaltrol; Silkis; Zemplar.

Multi-ingredient: **Arg.**: A-D-C; AD Shock; Ademicina; Anartril; Atomoderma A-D; Calcimax D3; Calcimax Magnesium; Calcio Cit; Calcio Mastica-ble; Calcional D3; Calcium D3; Calnier-D; Caltrate + D; Cavirox; Cavirox Cit; Citramar D; Dermosan; Dr Selby; Femorel Max; Fosamax Plus; Full Calcio; Glossderm; Magnesium Incaico; Ostram D3; Regenesi Max; Regual D; Ribastamin Duo; Sinamida Cicatrizante; Snella; Taxus; Ultracalcium D3; Vitapelen; **Austral.**: Bio Magnesium; Caltrate + Vitamin D; Caltrate Plus; FAB Tri-Cal; Fosamax Plus; Prosteof; Soy Forte with Black Cohosh; **Austria**: Calcit mit Vitamin D; Cal-D-or; Cal-D-Vita; Cal-De; Calcichew D; Calcimagon-D3; Calcipot D; Calcisan D; Calcium Plus; Calcium-D-Sandoz; Kombi-Kalz; Maxi-Kalz Vit D3; Oleovit A + D; Rutilcalzon; **Belg.**: Calcit Vitamine D; D-Vital; Fosavance; Newderm; Sandoz Ca-D; Steovit D3; Topcal D3; **Braz.**: AD-Til; ADE 2 (Adedols); Adecal; Adederm; Adeforte; Aderogil D3; Aderil; Calcio D; Babyd; Calcifix B12; Calcifix Irradiado; Calcini Complexo; Calcium D3; Calde; Caltrate + D; Caltrate + M; Cari-derm; Dermalisan; Dermoden; Gaduol; Glossaliv; Hipoderme; Hipodermon; Hipodex; Hipoglos; Maxicalc-D; Micalven D; Multiderme; Nateral D3; Os-Cal + D; Ossocal-D; OsteoNutri; Pronenex; Reposal D; Sensiba-by; Solemil; Suavenem; Vitadesan; **Canada**: A & D; A & D Ointment; Antiseptic Skin Cream; Cal D; Calburst; Calcia; Calcite D; Calcium D; Calcium Magnesium Plus; Caltrate Plus; Caltrate Select; Caltrate with Vitamin D; Mega Cal Calcium; Neo Cal D; Nu Cal D; Nutrol A D; Os-Cal D; Viactiv; **Chile**: Apical-D; Bxeron; Cadevit; Calcifor D; Calcigran; Calcigran D; Calcimax D3; Calcio Day D; Calcio Nil Forte; Calciovit Puro; Calcium Forte D; Calcium-Sandoz + D; Calcium-Sandoz Forte D; Calciv-orin D; Caldar-D; Caldeval; Caprimida D; Caprimida D Balance; Crevet Cal-cio + D3 + C; Dermaglos Plus; Dical-D3; Ecal-D; Kaplus-D; Levucal D; Macrocal-D; Nateral D; Nenegloss; Osteofort; Osteocaps; Ostram D3; Padiaderm; Platsul A; Pomada Vitamina; Povin; Sanidecal-D; Sanoderm; Trical-D; **Cz.**: Adrovance; Calcichew D; Caltrate Plus; Fosavance; Ideos; Infadalon; Kombi-Kalz; Osteocare; Vita-Calci; Vitacalcin D; **Denm.**: Calcichew D; CaviD; Ideos; **Fin.**: Calcichew D; D-Calsor; Fosavance; Ideos; Kalcipos-D; Ostram-Vit D; **Fr.**: Actonelcombi; Adrovance; Arthrolib; Cac-it Vitamine D; Calcitose Vitamine D; Calciforte Vitamine D; Calciprat D; Calcos Vitamine D; Calperos D; Caltrate Vitamine D; Eptavit; Estrofort; Fical Vitamine D; Fluosterol; Fosavance; Frubiose Vitamine D; Ideos; Me-tocalcium; Osseans D3; Osteocal D3; Ostram Vitamine D; Zymaduo; **Ger.**: CalcAPS D3; Calcigen D; Calcilic Kit; Calcimagon-D3; Calcimed D; Calcium D; Calcium Verla D; Calcium-D-Sandoz; Calcium-Dura Vit D; Calcium-Sandoz D Osteo; Calcivit D; calcivast; D-Fluoretten; Fluor-Vi-gantolettin; Fosavance; Frubiose Calcium forte 500; Ideos; Ossofortin D; Ossofortin forte; Ossofortin Plus; Ossofortin; Ossupvit D; Ossupvit S; Osteopul; Osteocid; Remicalcin + D; Sandoz-Cal; Strafortin; Zymafluor D; **Gr.**: Adrovance; Aquasol A+D; Cal-HD; Calcidina; Calcional D3; Calcium-D-Sandoz; Cald 3-Therapy; Caldesi; Calvidin; D-Calcium; Decal; Dioflam; Flavibon-C; Fosavance; Ideos; Nateral D3; Taminol; Videcalio; **Hong Kong**: Calcichew D; Calciday-D; Calperos D; Caltrate + D; Caltrate + Soy; Caltrate Plus; Citracal + D; Doctor's Choice Fortified Bone Support; Flavettes Cal D3; Fosamax Plus; Mega-Cal with Vit D; Os-Cal + D; Osteo-care; **Hung.**: Actonel; Trio; Calcichew D; Calcisedron-D; Calcium-D-Sandoz; Calcivid; Caldeat; Fosavance; Ideos; Neogranormon; Osteocare; Vita-calcit; **India**: Alfapil Plus; Anemidox; Aristrol Forte; Cafe-Kit; Cal-Aid; Calcigen; Calinol; Calcom; Calfa-Plus; Calmix; Cipcal; Cipcal M; Incad; Ka-lzana; Kemeticine Antiozena; Logical; Macalvit; Milcal; Milcal-XP; Minroset-C; Omical; Ossivite; Osteobon; Osteobon; Osteobon-M; Osteocalcium; Osteocalcium B-12; Sandoz with Vit D; Sharkomol; Sharkovit; Signacalvit; Syptocid; Trical-D; **Indon.**: Cal-95; Calc-Os; Calcidin; Calosbon; Calporosis D; Calisal; Cavit D3; CDR Fortos; Day-Cal; Dumocalcin Plus; Epocaldi; Fosamax Plus; Hi-Bone; Hical; Jointfit; Licokalk Plus; Menox; Ossit; Ossovit; Osteocal Plus; Osteocare; Osteopor; Scott's E Vita; Steopor; Vitacal-D; **Irl.**: Bio-Calcium + D; Bio-Calcium + D + K; Calcichew D; Calvidin; Choco-vite; Decal; Fosavance; Ideos; Osteofos D3; **Israel**: Aquitol; Baby A + D; Calcichew D; Calcium Citrate; Caltrate + Vit D; Oleovit A + D; Vita-midyne A + D; **Ital.**: AD Pabym; Adisterolo; Biocalcium D3; Calcit Vitamina D3; Cadtre; Calcicold3; Calcidon; Calciozim; Calcium-D3-Sandoz; Calci-umcafe; Calcivit; Calma D3; CalplusD3; Caltrate; Carbo D3; Cartago; Dical-cium; Ditrexit; Distrost; Effercal D3; Eucoral D3; Fitogen; Fosavance; Foscal3; Granolinal; Ideos; Kalaz D3; Metocal Vitamina D; Nateral; Oro-tre; Osteofos D3; Ostram D; Tonacal D3; Urtotre; **Malaysia**: Adult Cit-rex; Cal-Mag-D3; Bio-Enhanced Calcium Plus; Calcioday-D; Caltrate + D; Caltrate Plus; Citracal + D; Dumocalcin; Effic; Fosamax Plus; Junior Cit-rex; Cal-Mag-D3; Milcal; Os-Cal + D; Revital Calcium D3; Vitacal + D; **Mex.**: Adekals; Adekon; Adekon C; Adelonex; Adibal; Alfem; Aquasol AD; Caltrate + D; Caltrate + M; Caltrate + S; Caltrex; Capent; Dical; Fosamax Plus; Minerbon; Os-Cal + D; Osteocalcin; Osteomin D; Posture D; Sandoz Calcium + D; Sutini; Valmetrol-3; Vidamit; Vitalorange; **Neth.**: Cal-D; Calch-Chew D3; Calisvit; Halitran; Ideos; Sandoz Ca-D; **Norw.**: Calcigran; Ideos; Nycoplus Calcigran; **NZ**: Fosamax Plus; **Philipp.**: Agre-Calvit; Calciday; Caltrate Plus; Calvit; Esical; Fosavance; Her Soy Plus; Osteo-4; Osteo-D; Osteocare; Vandol; **Pol.**: Alantavit; Calcium 500D; Caldetrin; Cal-trate + Vitamina D; Caltrate Plus; Ideos; Orocal D; Ostowap D; Tranvit; Vicalvit D; **Port.**: Bidiam; Calcit; Calcigenol; Calcior-D; Calcitab D; Calcium 600; Calcium D; Calcium-D-Sandoz; Caltrate Plus Mastigavel; Caltrate Plus; Decalcit; Denical D; Dermabut; Fosavance; Ideos; Nateral D; Os-tram D3; **Oswal.**: **Rus.**: Calcembin (Кальцебин); Calcembin Advance (Кальцебин Адванс); Calcium-D3 Nycomed (Кальций-Д3 Никомед); Ideos (Идеос); Nateral D (Натекаль Д); Vectrum Calcium (Вектрум Кальций); **S.Afr.**: Phytopause BSF; Vandol; **Singapore**: BoneCare; Cal-D3; Calioday-D; Calcium-D; Caltrate + Soy; Caltrate + Vit D; Caltrate Plus; Cavit-D3; Citracal + D; Dumocalcin; Effic; Fosamax Plus; Glucocal; Os-Cal + D; Vitacal; Vitacal + D; **Spain**: Adicod; Biominol A D; Calcial D; Calcio 20 Complex; Calcio 20 Fuerte; Calcio D; Calcium-Sandoz Forte D; Caosina D; Carbocal D; Citracal; Cimalcal D; Creacal; Disnal; Fosavance;

Grietalgen; Grietalgen Hidrocortil; Ibercal D; Ideos; Mastical D; Maxbon; Mencalvit; Metafol; Mitosyl; Nateral D; Osteomerk; Ostine; Osval D; Redoxon; Calciovit; Tepox; Cal D; Trabex; Veriscal D; **Swed.**: AD-vitamin; Cal-D-Vita; Calcichew D; Ideos; Kalcipos-D; **Switz.**: Cal-De; Calcimagon-D3; Calcium D Sauter; Calcium-Sandoz D3; Calcivit; Calperos D; Decalcit; Malvedrin; Osteocal D3; Phytopharma Calcium; Ricciovit; **Thail.**: Bio-Calcium + D3 + K; Cal-D-Vita; Calcacin; Calcioday-D3; Calcium D; Caldoxon; Caltab W/Vitamin D; Caltrate + D; Caltrate Plus; Calvin Plus; Combi-Cal; Effic; Fortica; Osteone-B12; Prima-Cal Plus Vit D; **Turk.**: Balya; Cal-D-Vita; Calcidine; Calcimax D3; Calcium-D-Sandoz; Caltrate; D-Flor; Folic Plus; Foskalciferol; Kalsiflor; Nature Made Oyster Shell Calcium; Osteo-care; **UK**: Actonel Combi; Adcal-D; Calcit D3; Calceos; Calcichew D; Calcium and Ergocalciferol Tablets; Calfovit D3; Caltrate Plus; Crampex; Fosavance; Haliborange Calcium Plus Vitamin D; Nateral D3; Osteo-Life; Osteocare; S.P.H.P.; **USA**: A and D Medicated; Calcarb with Vitamin D; Cal-cet; Calcium 600 + D; Cal-D; Caltrate + Iron + Vitamin D; Caltrate + Vitamin D; Caltrate Plus; Calvit P & D; Citracal + D; Citracal Creamy Bites; Citracal Plus with Magnesium; Clocream; Desert Pure Calcium; Dia-per Guard; Fosamax Plus; Fostem; Lobana Derm-Acid; Lobana Peri-Gard; Os-Cal + D; Oyster Calcium with Vitamin D; Paladin; Posture-D; **Venez.**: A-D-Vit; Adadern; Adenar; Brocalcio D3; Cal-Cel; Calcion D; Calcion D Magnesium; Calcion D Soya; Calcion Natal; Calcior D; Calcio Ostelin; Calcior D; Calcigenol; Calcium D Plus; Calcitrex D3; Calpal D; Caltrate + D; Citracal D; Dicalico; Hipoglos; Ideos; Kidcal; Maltocalcine; Oscal D; Vandol; Vitenol.

Vitamin E Substances

Vitamina E.

ATC — A11HA03.

ATC Vet — QA11HA03.

NOTE: The food additive number E306 is useful for tocopherols.

Vitamin E is a generic term applied to a large number of natural or synthetic compounds. The most important substances are the **tocopherols** of which **alpha tocopherols** are the most active and widely distributed in nature; other naturally occurring tocopherols include beta, gamma, and delta tocopherols, but these are not used in therapeutics. The other group of compounds with vitamin E activity are the tocotrienols.

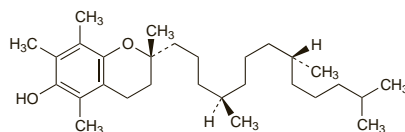
Alpha tocopherols occur naturally in the *d* optical isomer form, which is more active than the synthetic racemic *dl* form; for further details concerning the comparative activities of the different forms and isomers of vitamin E compounds, see under Units, below.

d-Alpha Tocopherol

d-Alfa Tokoferol; (+)-Alpha-Tocopherol; *RRR*-alpha-Tocopherol; *RRR*-alpha-Tocopherol; Natural Alpha Tocopherol; Natural α -Tocopherol; *RRR*- α -Tocopherolum; *RRR*- α -Tokoferol; *d*- α -Tocopherol; *RRR*- α -Tocopherol; *d*- α -Tocopherol; *RRR*- α -tocopherolum; *RRR*- α -tokoferol; *RRR*- α -Tokoferoli; *RRR*- α -Tokoferolis. (+)-2,5,7,8-Tetramethyl-2-(4,8,12-trimethyltridecyl)chroman-6-ol.

C₂₉H₅₀O₂ = 430.7.

CAS — 59-02-9.



Pharmacopoeias. In *Eur.* (see p.vii). *US* allows it under the title Vitamin E.

Ph. Eur. 6.2 (*RRR*- α -Tocopherol; *RRR*-Alpha-Tocopherol BP 2008). A clear, colourless, or yellowish-brown viscous oily liquid. Practically insoluble in water; freely soluble in dehydrated alcohol, in acetone, in dichloromethane, and in fatty oils. Store under an inert gas in airtight containers. Protect from light.

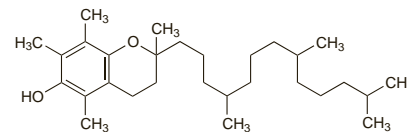
USP 31 (Vitamin E). A clear, yellow, or greenish-yellow, practically odourless, viscous oil. It is unstable to air and light, particularly in alkaline media. Insoluble in water; soluble in alcohol; miscible with acetone, with chloroform, with ether, and with vegetable oils. Store under an inert gas in airtight containers. Protect from light.

dl-Alpha Tocopherol

all-rac- α -Tokoferol; all-rac- α -Tocopherol; Alpha Tocopherol; (\pm)-Alpha-Tocopherol; E307; int-rac- α -Tocopherolum; int-rac- α -Tocopherolum; Synthetic Alpha Tocopherol; Synthetic α -Tocopherol; *DL*- α -Tocopherol; Tocopherolum Alfa; α -Tocopherol; *dl*- α -Tocopherol; α -Tocopherolum; α -Tokoferol; Tokoferol-alfa; tout-rac- α -Tocopherol; *Visu* racematum α -Tokoferolis. (\pm)-2,5,7,8-Tetramethyl-2-(4,8,12-trimethyltridecyl)chroman-6-ol.

C₂₉H₅₀O₂ = 430.7.

CAS — 10191-41-0.



Pharmacopoeias. In *Eur.* (see p.vii) and *Jpn.* *US* allows it under the title Vitamin E.

Ph. Eur. 6.2 (all-rac- α -Tocopherol; all-rac-Alpha Tocopherol BP 2008). A clear, colourless or yellowish-brown viscous oily liquid. Practically insoluble in water; freely soluble in dehydrated alcohol, in acetone, in dichloromethane, and in fatty oils. Store under an inert gas. Protect from light.

USP 31 (Vitamin E). A clear, yellow, or greenish-yellow, practically odourless, viscous oil. It is unstable to air and light, particularly in alkaline media. Insoluble in water; soluble in alcohol; miscible with acetone, with chloroform, with ether, and with vegetable oils. Store under an inert gas in airtight containers. Protect from light.

d-Alpha Tocopheril Acetate

d-Alpha Tocopheryl Acetate; (+)-Alpha-Tocopherol Acetate; (+)-Alpha-Tocopheryl Acetate; *RRR*-alpha-Tocophéryle, acétate de; *RRR*-alpha-Tocophérylis acetat; *RRR*- α -Tocophérylis acetat; *RRR*- α -Tokoferily octan; *d*- α -Tokoferilo, acetato de; Tokoferoli Alfa *RRR* Acetas; *RRR*- α -Tocopheroli Acetas; *d*- α -Tocopheryl Acetate; *RRR*- α -Tocopheryl Acetate; *RRR*- α -Tocophérylis Acetas; *RRR*- α -Tokoferilio acetatas; *RRR*- α -Tokoferol-acetát; Tokoferol-acetát alfa *RRR*; Tokoferol-alfa-*RRR*-acetát; *RRR*- α -Tokoferylacetat; *RRR*- α -Tokoferilylasettaatti. (+)- α -Tocopherol acetate.

C₃₁H₅₂O₃ = 472.7.

CAS — 58-95-7.

Pharmacopoeias. In *Eur.* (see p.vii). *US* allows it under the title Vitamin E.

Ph. Eur. 6.2 (*RRR*- α -Tocopheryl Acetate; *RRR*-Alpha-Tocopheryl Acetate BP 2008). A clear, colourless or slightly greenish-yellow, viscous oily liquid. Practically insoluble in water; soluble in alcohol; freely soluble in dehydrated alcohol, in acetone, and in fatty oils. Protect from light.

USP 31 (Vitamin E). A clear, yellow, or greenish-yellow, practically odourless, viscous oil. It may solidify in the cold. It is stable to air and light, but unstable to alkali. Insoluble in water; soluble in alcohol; miscible with acetone, with chloroform, with ether, and with vegetable oils. Store in airtight containers. Protect from light.

dl-Alpha Tocopheril Acetate

dl-Alfa Tokoferil Asetat; all-rac- α -Tokoferily octan; all-rac- α -Tocopheryl Acetate; Alpha Tocopheryl Acetate; *dl*-Alpha Tocopheryl Acetate; (\pm)-Alpha-Tocopherol acetate; int-rac- α -Tocophérylis acetat; int-rac- α -Tocophérylis Acetas; *DL*- α -Tokoferilo, acetato de; Tokoferoli Alfa Acetas; α -Tocopherol Acetate; α -Tocopheroli Acetas; *dl*- α -Tocopheryl Acetate; Tokoferol alfa-acetát; Tokoferolu octan; tout-rac- α -Tocophéryle, acétate de; *Visu* racematum α -Tokoferilio acetatas. (\pm)- α -Tocopherol acetate.

C₃₁H₅₂O₃ = 472.7.

CAS — 7695-91-2; 52225-20-4.

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), and *Jpn.* *US* allows it under the title Vitamin E.

Eur. also has a monograph for the concentrated powdered form.

Ph. Eur. 6.2 (all-rac- α -Tocopheryl Acetate; all-rac-Alpha Tocopheryl Acetate BP 2008). A clear, colourless or slightly greenish-yellow, viscous, oily liquid. Practically insoluble in water; freely soluble in dehydrated alcohol, in acetone, and in fatty oils. Protect from light.

Ph. Eur. 6.2 (α -Tocopheryl Acetate Concentrate (Powder Form); α -Tocophérylis Acetatis Pulvis; Alpha Tocopheryl Acetate Concentrate (Powder Form) BP 2008). It is prepared either by finely dispersing *dl*-alpha tocopheril acetate in a suitable carrier (e.g. gelatin, acacia, carbohydrates, lactoproteins, or a mixture of these) or by adsorbing *dl*-alpha tocopheril acetate on to silicic acid. The concentrate contains not less than 25% of *dl*-alpha tocopheril acetate. Almost white, yellowish, or light-brown small particles. Depending on the formulation, the powder may be practically insoluble in water or may swell or form a dispersion. Store in well-filled airtight containers. Protect from light.

USP 31 (Vitamin E). A clear, yellow, or greenish-yellow, practically odourless, viscous oil. It is stable to air and light, but unstable to alkali. Insoluble in water; soluble in alcohol; miscible with acetone, with chloroform, with ether, and with vegetable oils. Store in airtight containers. Protect from light.