Further investigation revealed that the infant did not have the disease; the aroma was due to the presence of sotolone in the fenugreek seeds used to prepare the tea.

1. Sewell AC, *et al.* False diagnosis of maple syrup urine disease owing to ingestion of herbal tea. *N Engl J Med* 1999; **341:** 769.

Preparations

Proprietary Preparations (details are given in Part 3)

Fr.: Fenugrene; Sthenorex†.

Multi-ingredient: ***Austral.:*** Bilberry Plus; Garlic and Horseradish + C Complex; Panax Complex†; ***Fr.:*** Phytheol; ***India:*** Happy'tizer; ***Indon.:*** Provigor; ***Malaysia:*** Horseradish Plus†.

Ferric Chloride

Chlorid železitý hexahydrát; Chlorure Ferrique; Ferr. Perchlor.; Ferri chloridum hexahydricum; Férrico, cloruro; Ferrikloridhexahydrat; Ferrikloridiheksahydraatti; Ferrique (chlorure) hexahydraté; Ferrum Sesquichloratum; Geležies(III) chloridas heksahidratas; Iron Perchloride; Iron Sesquichloride; Iron Trichloride; Vas(III)-klorid-hexahidrát; Železa(III) chlorek.

$FeCl_3,6H_2O$ = 270.3.

CAS — 7705-08-0 (anhydrous ferric chloride); 10025-77-1 (ferric chloride hexahydrate).

Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Ferric Chloride Hexahydrate). A very hygroscopic, crystalline mass or orange-yellow to brownish-yellow crystals. Very soluble in water and in alcohol; freely soluble in glycerol. Store in airtight containers. Protect from light.

Profile

Ferric chloride has the general properties of iron salts (p.1949) but is exceptionally astringent. It has been used mainly by local application for its styptic and astringent properties. Local application of ferric chloride or other iron salts may cause permanent discoloration of the skin.

Preparations

Proprietary Preparations (details are given in Part 3)

Ital.: Cotone Emostatico; ***Rus.:*** Hemofer (Гемофер); ***S.Afr.:*** Staaldruppels.

Multi-ingredient: ***Belg.:*** Ouate Hemostatique; ***UK:*** Glykola.

Fibronectins

Fibronectina.

Фибронектины

Profile

Fibronectins are high molecular weight endogenous adhesive glycoproteins found in plasma and in the extracellular matrix. Plasma fibronectin was originally known as cold-insoluble globulin. Fibronectins are principally involved in cellular attachment and migration in normal physiological processes as well as in various malignant diseases. They have an important role in the function of the extracellular matrix, and in morphogenesis and tissue remodelling. They also play a part in aggregation of platelets, and are used in combinations with other blood products in wound-sealant preparations. Manipulation of the activity of fibronectins (for example with fibronectin inhibitors or fibronectin fragments) is being investigated in the treatment of connective tissue diseases, malignancies, and wound healing. Fibronectin itself has potential use as a research tool for the study of cell adhesion and migration processes.

◊ References.

1. Kaspar M, *et al.* Fibronectin as target for tumor therapy. *Int J Cancer* 2006; **118:** 1331–9.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Arg.:*** Tissucol Duo Quick†; ***Austral.:*** Tisseel Duo; ***Austria:*** Tissucol; Tissucol Duo Quick; ***Belg.:*** Tissucol Duo; ***Canad.:*** Tisseel; ***Cz.:*** Tissucol; ***Denm.:*** Tisseel Duo Quick; ***Fin.:*** Tisseel Duo Quick; ***Fr.:*** Tissucol; ***Ger.:*** Quixil; Tissucol Duo S; Tissucol-Kit; ***Hong Kong:*** Tisseel; ***Hung.:*** Tissucol-Kit; ***Israel:*** Tisseel; ***Ital.:*** Quixil; ***Mex.:*** Tissucol†; ***Neth.:*** Quixil; Tissucol; Tissucol Duo; ***Spain:*** Tissucol Duo; ***Swed.:*** Tisseel Duo Quick; ***Switz.:*** Tissucol; Tissucol Duo S; ***UK:*** Tisseel.

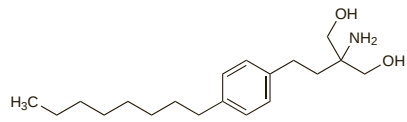
Fingolimod *(rINN)*

Fingolimodum; FTY-720 (fingolimod hydrochloride). 2-Amino-2-[2-(4-octylphenyl)ethyl]propane-1,3-diol.

Финголимод

$C_{19}H_{33}NO_2$ = 307.5.

CAS — 162359-55-9 (fingolimod); 162359-56-0 (fingolimod hydrochloride).



NOTE. Fingolimod hydrochloride is *USAN*.

Profile

Fingolimod is an immunomodulator under investigation for multiple sclerosis and prophylaxis of acute rejection in kidney transplantation. Fingolimod is a prodrug, which after phosphorylation, acts as a sphingosine-1-phosphate receptor agonist that binds to the surface of lymphocytes and redirects them from the bloodstream and graft sites to the lymph nodes.

◊ References.

1. Kappos L, *et al.* Oral fingolimod (FTY720) for relapsing multiple sclerosis. *N Engl J Med* 2006; **355:** 1124–40.

Flavonoid Compounds

Bioflavonoids; Flavonoides; Vitamin P Substances.

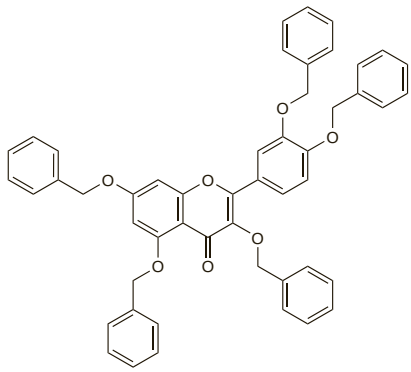
Benzquercin *(rINN)*

Benzquercina; Benzquercine; Benzquercinum. 3,3′,4′,5,7-Pentakis(benzyloxy)flavone.

Бензкверцин

$C_{50}H_{40}O_7$ = 752.8.

CAS — 13157-90-9.



Diosmin *(BAN, rINN)*

Barosmin; Buchu Resin; Diosmetin 7-Rutinoside; Diosmiini; Diosmina; Diosminas; Diosmine; Diosminum; Diozmin. 3′,5,7-Trihydroxy-4′-methoxyflavone 7-[6-*O*-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranoside].

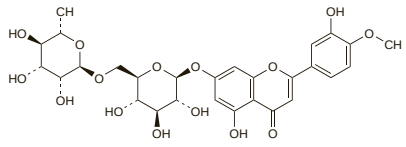
Диосмин

$C_{28}H_{32}O_{15}$ = 608.5.

CAS — 520-27-4.

ATC — C05CA03.

ATC Vet — QC05CA03.



Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Diosmin). A greyish-yellow or light yellow hygroscopic powder. Practically insoluble in water and in alcohol; soluble in dimethyl sulfoxide. It dissolves in dilute solutions of alkali hydroxides. Store in airtight containers.

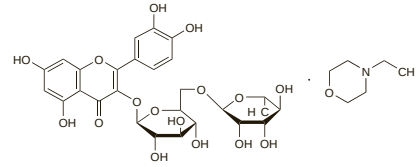
Ethoxazorutoside *(rINN)*

Aethoxazorutin; Aethoxazorutoside; Ethoxazorutin; Éthoxazorutoside; Ethoxazorutosidum; Etoxazorutósido; Oxarutinum. 2-Morpholinoethylrutin.

Этоксазорутозид

$C_{33}H_{41}NO_{17}$ = 723.7.

CAS — 30851-76-4.



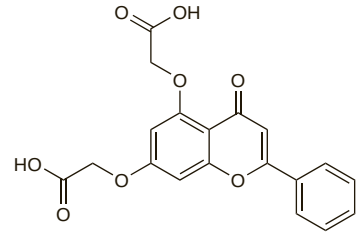
Flavodate Sodium *(rINNM)*

Flavodate de Sodium; Flavodate Disodium; Flavodato sódico; Natrii Flavodas. Disodium (4-oxo-2-phenyl-4*H*-chromene-5,7-diyldioxy)diacetate.

Натрий Флаводовая

$C_{19}H_{12}Na_2O_8$ = 414.3.

CAS — 37470-13-6 (flavodic acid); 13358-62-8 (flavodate disodium).



(flavodic acid)

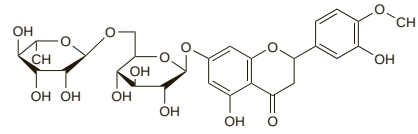
Hesperidin

Hesperidiini; Hesperidina; Hesperidinum; Hesperydyna. 5-Hydroxy-2-(3-hydroxy-4-methoxyphenyl)-4-oxo-4*H*-chromen-7-yl rutinoside.

Гесперидин

$C_{28}H_{34}O_{15}$ = 610.6.

CAS — 520-26-3 (hesperidin); 24292-52-2 (hesperidin methyl chalcone).



Description. Hesperidin is a flavonoid isolated from the rind of certain citrus fruits.

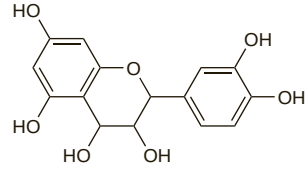
Leucocianidol *(rINN)*

Leucocianidolum; Leucocyanidin; Leucocyanidol. 2-(3,4-Dihydroxyphenyl)chroman-3,4,5,7-tetrol.

Лейкоцианидол

$C_{15}H_{14}O_7$ = 306.3.

CAS — 480-17-1.



Monoxerutin *(rINN)*

Monohydroxyethylrutosides; Monokserutiini; Monoxerutina; Monoxérutine; Monoxerutinum. 7-(β-Hydroxyethyl)rutoside.

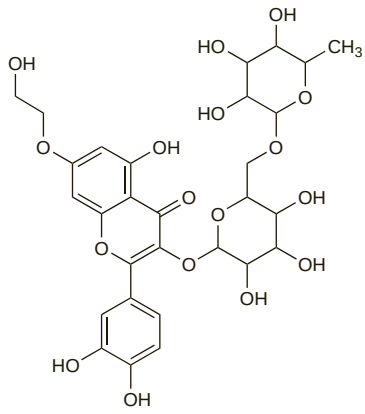
Моноксерутин

$C_{29}H_{34}O_{17}$ = 654.6.

CAS — 23869-24-1.

ATC — C05CA02.

ATC Vet — QC05CA02.



Oxerutins *(BAN)*

Hydroxyethylrutosides; Oxerutinas.

Оксерутины

Description. Oxerutins consist of a mixture of 5 different *O*-(β-hydroxyethyl)rutosides, not less than 45% of which is troxerutin (trihydroxyethylrutoside, below), but which also includes monohydroxyethylrutoside, dihydroxyethylrutoside, and tetrahydroxyethylrutoside.

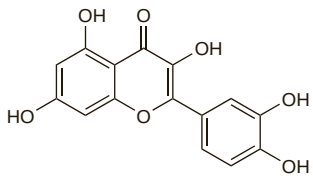
Quercetin

3,3′,4′,5,7-Pentahydroxyflavone; Quercetina. 2-(3,4-Dihydroxyphenyl)-3,5,7-trihydroxy-4*H*-1-benzopyran-4-one.

Кверцетин

$C_{15}H_{10}O_7$ = 302.2.

CAS — 117-39-5.



Rutoside *(BAN, rINN)*

Rutin; Rutosid; Rutoside trihydraté; Rutosidi; Rutosiditrihydraatti; Rutósido; Rutosidtrihydrat; Rutosidum; Rutosidum trihydricum; Rutozidas trihidratas; Rutozid-trihidrát; Rutozyd; Rutyna. 2-(3,4-Dihydroxyphenyl)-3,5,7-trihydroxy-4-oxo-4*H*-chromen-3-yl rutinoside trihydrate; 2-(3,4-Dihydroxyphenyl)-5,7-dihydroxy-4-oxo-4*H*-chromen-3-yl 6-*O*-(α-L-rhamnosyl)-β-D-glucoside.

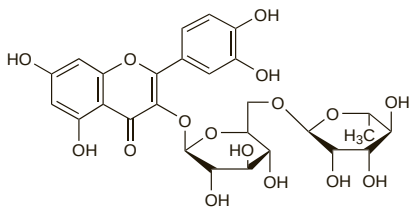
Рутозид

$C_{27}H_{30}O_{16}$,$3H_2O$ = 664.6.

CAS — 153-18-4 (anhydrous rutoside).

ATC — C05CA01.

ATC Vet — QC05CA01.



Description. Rutoside is a flavonoid obtained from buckwheat, *Fagopyrum esculentum* (Polygonaceae), or from other sources which include the flower buds of the Japanese pagoda-tree, *Sophora japonica*, and the leaves of several species of *Eucalyptus*.

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

Ph. Eur. 6.2 (Rutoside Trihydrate). A yellow or greenish-yellow crystalline powder. Practically insoluble in water; sparingly soluble in dehydrated alcohol; practically insoluble in dichloromethane; soluble in methyl alcohol. It dissolves in solutions of alkali hydroxides. Protect from light.

Troxerutin *(BAN, rINN)*

THR; Trihydroxyethylrutoside; Trioxyethylrutin; Trokserutiini; Trokserutyna; Troxerutina; Troxérutine; Troxerutinum. 3′,4′,7-Tris[*O*-(2-hydroxyethyl)]rutin; 5-Hydroxy-7-(2-hydroxyethoxy)-2-[3,4-bis(2-hydroxyethoxy)phenyl]-4-oxo-4*H*-chromen-3-yl rutinoside.

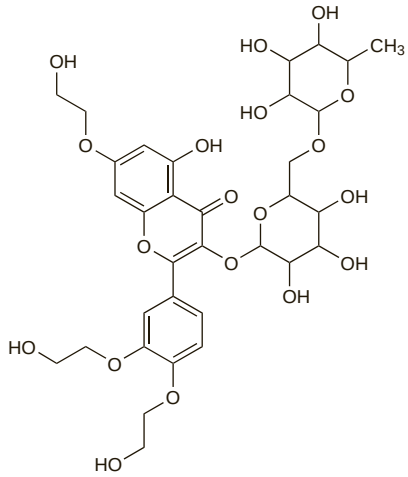
Троксерутин

$C_{33}H_{42}O_{19}$ = 742.7.

CAS — 7085-55-4.

ATC — C05CA04.

ATC Vet — QC05CA04.



Description. Troxerutin is the principal component of oxerutins, above.

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

Ph. Eur. 6.2 (Troxerutin). A yellowish-green, hygroscopic, crystalline powder. Freely soluble in water; slightly soluble in alcohol; practically insoluble in dichloromethane. Store in airtight containers. Protect from light.

Profile

Flavonoids are naturally occurring antoxidants that are widely distributed in plants. Preparations containing natural or semisynthetic flavonoids are thought to improve capillary function by reducing abnormal leakage. They have been given to relieve capillary impairment and venous insufficiency of the lower limbs, and for haemorrhoids.

It has been suggested that flavonoids present in some foods, such as fruit, vegetables, tea, and red wine may protect against the development of atherosclerosis (p.1159).

◊ References.

1. Knekt P, *et al.* Flavonoid intake and coronary mortality in Finland: a cohort study. *BMJ* 1996; **312:** 478–81.
2. Hertog MGL, *et al.* Antioxidant flavonols and coronary heart disease risk. *Lancet* 1997; **349:** 699.
3. Youdim KA, *et al.* Dietary flavonoids as potential neuroprotectants. *Biol Chem* 2002; **383:** 503–19.
4. Lopez-Lazaro M. Flavonoids as anticancer agents: structure-activity relationship study. *Curr Med Chem Anti-Canc Agents* 2002; **2:** 691–714.
5. Lyseng-Williamson KA, Perry CM. Micronised purified flavonoid fraction: a review of its use in chronic venous insufficiency, venous ulcers and haemorrhoids. *Drugs* 2003; **63:** 71–100.
6. Alonso-Coello P, *et al.* Meta-analysis of flavonoids for the treatment of haemorrhoids. *Br J Surg* 2006; **93:** 909–20.
7. Cermak R. Effect of dietary flavonoids on pathways involved in drug metabolism. *Expert Opin Drug Metab Toxicol* 2008; **4:** 17–35.

Interactions. For a report of quercetin increasing the bioavailability and concentration of ciclosporin, see p.1828.

Preparations

Proprietary Preparations (details are given in Part 3)

Arg.: Flebon; Flebotropin; Flerox†; Jatamansin†; Rutilina; Terbenol; Venoruton; Venosmil; ***Austral.:*** Paroven; ***Austria:*** Venoruton; ***Belg.:*** Docrutosi; Veinamitol; Ven-Detrex; Venoruton; ***Braz.:*** Daflon; Flavonid; Venoruton; ***Chile:*** Flebopex; Insuven; Venoruton; ***Cz.:*** Cilkanol; Venoruton; ***Denm.:*** Venoruton; ***Fr.:*** Daflon; Diamoril†; Dio; Diosmil†; Diovenor; Endium; Flavan; Flebosmil; Intercyton; Mediveine; Preparation H Veinotonic; Relvene; Rheoflux; Titanoral; Veinamitol; Veineva; Venirene; ***Ger.:*** Drisi-Ven†; Posorutin; Rutinion; Tovene; Troxeven; Vastribil†; Veno SL; Venoruton; Venotrulan Trox; ***Gr.:*** Radiavit; Rioven†; Venoruton; ***Hong Kong:*** Venoruton†; ***Hung.:*** Veinamitol†; Venoruton; ***India:*** Venusmin; ***Indon.:*** Ardium; Venaron; ***Israel:*** Veinamitol†; Venoruton; Vridol†; ***Ital.:*** Alven; Arvenum; Diosven; Doven; Pericel; Venolen; Venoruton; Venosmine; ***Mex.:*** Sies; Teboven; ***Neth.:*** Venoruton; ***NZ:*** Paroven; ***Philipp.:*** Varemoid; Venoruton; ***Pol.:*** Otrex; Phlebodia; Posorutin; Rutinoven; Rutoven; Troxeratio; Venolan; Venoruton; Venotrex; ***Port.:*** Arvenum; Hepacalmina; Muralion; Venex; Veno V; Venoruton; Venosmil; Veroven; ***Rus.:*** Phlebodia (Флебодиа); Troxevazin (Троксевазин); Venoruton (Венорутон); ***S.Afr.:*** Paroven; ***Spain:*** Esberiven; Pentovena†; Venolep; Venoruton; Venosmil; ***Switz.:*** Hemerven; Neorutin†; Pur-Rutin; Venoruton; Venutabs; ***Thai.:*** Flavon; Heteroid; Venoruton; ***Turk.:*** Daflon; Venoruton; ***UK:*** Paroven; ***USA:*** Citro-Flav; Limbrel; ***Venez.:*** Diovenor; Flavol; Hyflon; Verutil.

Multi-ingredient: ***Arg.:*** Accesum; Ajomast Circulatorio†; CVP B1 B6 B12†; CVP Duo; CVP Flebo; CVP Forte; Cyclo 3; Daflon; Dipemina; Diroseal; Epiteliol-C; Esberiven; Escina Forte; Escina Omega; Esculeol P; Exail; Fiblast; Flebitol; Flebotropin†; GB 100; HDG; Kacerutin; Microsuy; Mimixin; Phlogenzym†; Terbenol Duo; Troxeven†; Tubarine; Ulcevarin†; Varisedan; Vefluxan†; Venart; Venidium; Veraldid; Vitamina C-Complex; VNS 45; ***Austral.:*** B-Complex Threshold; Beta A-C; Bio C; Bio-C Complex; Bioglan Cirflo†; Bioglan Mega C; Bioglan Super Cal C; Bioglan The Blue One; Bioglan Zellulean with Escin; Bioglan Zn-A-C; C Supa + Bioflavonoids†; Cold & Flu Tablets Non Drowsy; Devils Claw Plus; Extralife Leg-Care; Eye Health Herbal Plus Formula 4; Flavonoid Complex; Flavons; For Peripheral Circulation Herbal Plus Formula 5; Gentle C with Bioflavonoids†; Lifesystem Herbal Formula 6 For Peripheral Circulation†; Lifesystem Herbal Plus Formula 5 Eye Relief†; Macro C†; Proflo†; Rubus Complex†; Super Cal-C Bio; Sustained Release C; ***Austria:*** Calcipot C; Cebion plus Rutin; Daflon; Heloprin; Iroviton Multivitamin; Phlebodril; Phlogenzym; Ruticalzon; Rutiscorbin†; Rutiviscal; Rutozym; Sklerovitol; Tetesept; Traumazym; Trimedil; Venotop; Vit-C-Lutsch; Waldheim Influvidon; Wobenzym; ***Belg.:*** Daflon; Mictasol-P; ***Braz.:*** Castanha de India Composta†; Dactil OB; Daflon 500; Diosmin; Flebotrat†; Gingilone; Gripen; Hemodotti; Hemorroidex†; Manolio†; Mirorroidin†; Novarrutina; Panvitrop; Trimedal; Varicoss; Varizol†; Venaflon; Venalot; Venocur Triplex; Venovaz; ***Canad.:*** Ultra Quercitin; ***Chile:*** Daflon 500; Dipemina; Diroseal; Duo-CVP; Hemoplex†; Phyto Corrective Gel; Primacy Phyto +†; Venartel; Vesnidan; ***Cz.:*** Anavenol; Ascorutin; Cyclo 3 Fort; Detralex; Ginkor Fort; Phlogenzym; Wobenzym; ***Denm.:*** Capiven; ***Fr.:*** Avene Antirougeurs; Bicirkan; Cemaflavone; Cirkan; Cyclo 3 Fort; Diroseal; Esberiven Fort; Gel a l'Acetotartrate d'Alumine Defresne†; Ginkor; Ginkor Fort; Ophtadil†; Rheobral; Vascocitrol; Veliten; Venyl†; Vivene†; ***Ger.:*** Antihypertonicum S; Calcium-Rutinion†; Cycloven Forte N; Emocrat forte†; Enzym-Wied†; Essaven N†; Essaven ultra†; Eukalisan N; Fagorutin Buchweizen; Fagorutin Rosskastanien-Balsam N; Intradermi; Lindigoa S†; Movicard; Perivar†; Phlebodril; Phlogenzym; Posti N†; Ruticalzon VC†; Tornix; Vaso-E-Bion; Venalot; Venalot N†; Veno-Tebonin N†; Vitosal†; Wobenzym N; ***Gr.:*** Abanifan; Antican; Bioflevin; Cidoston; Cyclo 3 Forte; Daflon; Diosper; Dispedrol; Flavon†; Flevion; Flevostol; Gamophen; Mecaton; Noxarel; Oflazet; Pelethrocin; Roxydral; Smudal; Venosman†; ***Hong Kong:*** Daflon; Ginkor Fort; Hemo Rid; Poly C†; Quali-Flon; ***Hung.:*** Detralex; Ginkor Fort; Phlogenzym; Rutascorbin; ***India:*** Cadisper C; CKP; CVP; Gynae-CVP; Kalpastic; Styptocid; Styptocip†; ***Indon.:*** Ambeven Plus; Ciflon; Papaven; Vedium; ***Israel:*** Opti-safe; ***Ital.:*** Angioton; Capill Venogel; Daflon 500; Dermoangiopan†; Digifar†; Diosmina Complex; Emortrofine; Facosmina; Flebil Plus; Flebo-Si; Flebofort; Flebolider; Fleboside; Ginkoftal; Levital Plus; Neomyrt Plus; Pulsalux; RepaVen†; Rutisan CE†; Traumal†; Varicofit; Venactive†; Venodin; Venoton; Voltatrauma; ***Malaysia:*** Daflon 500; Ginkor Fort; Hemorid; Nat-C; ***Mex.:*** Cal-Rutina; Daflon; Elatec; Fabroven; Flavit; Phlogenzym; Variton; Venalot; Wobenzym; ***NZ:*** Botanica Hayfever; ***Philipp.:*** Daflon; ***Pol.:*** Alliorut; Anavenol; Ascorutical; Biovision; Cerutin; Cyclo 3 Fort; Detralex; Kelicardina; Pelethrocin; Rutinacea; Rutinoscorbin; Rutinoscorbin Plus; Rutokal C; Rutovit C; Sapoven AT; Sapoven T; Scorbolamid; Troxescorbin; Venacorn; Venescin; ***Port.:*** Actilam; Cegripe; Cyclo 3; Daflon; Rimanal; Rutinice Fortissimo; ***Rus.:*** Anavenol (Анавенол); Antigrippin-ANVI (Антигриппин-АНВИ); Ascorutical (Аскорутикаль); Cyclo 3 Fort (Цикло-3 Форт); Detralex (Детралекс); Ginkor Fort (Гинкор Форт); Ginkor Gel (Гинкор Гель); Indovasin (Индовазин); Phlogenzym (Флогэнзим); Prophylactin C (Профилактин С); Venolife (Венолайф); Wobenzym (Вобэнзим); ***S.Afr.:*** Essaven†; ***Singapore:*** Cyclo 3 Fort; Daflon 500; Diosper; Poly C; ***Spain:*** Caprofides Hemostatico; Daflon 500; Epistaxol; Fabroven; Flebeside†; Gingilone; Nasopomada; ***Switz.:*** Biovital Ginseng; Daflon 500; Demoven N; Flavovenyl; Lapidar 4; Phlebodril N; Video-Net†; ***Thai.:*** Biocalron; Cyclo 3 Fort; Daflon; Dafomin; Essaven; Ginkor Fort; Heroid; Nat-C Medicrafts; Siduol; ***USA:*** Amino-Opti-C; C Factors "1000" Plus; Cholinoid; Citrus-flav C; Ester-C Plus; Ester-C Plus Multi-Mineral; Flavons; Lipoflavonoid; Pan C; Peridin-C; Proflavanol; Pycnogenol Plus; Span C; ***Venez.:*** Daflon; Disolina; Dremo-K†; Phlogenzym; Wobenzym N.

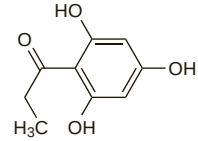
Flopropione *(rINN)*

Flopropiona; Flopropionum; Fluropropiofenone; Phloropropiophenone; RP-13907. 2′,4′,6′-Trihydroxypropiophenone.

Флопропион

$C_9H_{10}O_4$ = 182.2.

CAS — 2295-58-1.



Pharmacopoeias. In *Jpn.*

Profile

Flopropione is an antispasmodic that has been given orally in doses of 40 to 80 mg three times daily.

Preparations

Proprietary Preparations (details are given in Part 3)

Jpn: Cospanon.