Ferrous Gluconate

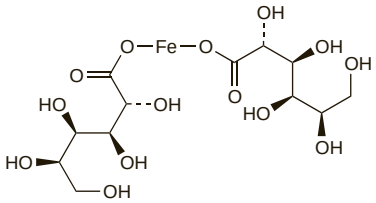
E579; Eisen(II)-Gluconat; Ferroglukonaatti; Ferroglukonat; Ferrosi gluconas; Ferrosi Gluconas Hydricus; Ferroso, gluconato; Geležies(II) gliukonatas; Gluconate ferreux; Glukonan železnatý hydrát; Vas(II)-glükonát; Železa(II) glukonian. Iron (II) di(D-gluconate).

$C_{12}H_{22}FeO_{14}.xH_2O$.

CAS — 299-29-6 (anhydrous ferrous gluconate); 12389-15-0 (ferrous gluconate dihydrate).

ATC — B03AA03.

ATC Vet — QB03AA03.



(anhydrous ferrous gluconate)

Pharmacopoeias. In *Eur.* (see p.vii).
Chin. and *US* specify the dihydrate.

Ph. Eur. 6.2 (Ferrous Gluconate). A greenish-yellow to grey powder or granules. It contains not less than 11.8% and not more than 12.5% of ferrous iron calculated with reference to the dried substance. Freely but slowly soluble in water producing a greenish-brown solution, more readily soluble in hot water; practically insoluble in alcohol. A 10% solution in water has a pH of 4.0 to 5.5 three to four hours after preparation. Protect from light.

USP 31 (Ferrous Gluconate). A yellowish-grey or pale greenish-yellow, fine powder or granules having a slight odour resembling that of burnt sugar. Soluble 1 in 5 of water; practically insoluble in alcohol. A 5% solution in water is acid to litmus. Store in airtight containers.

Profile

Ferrous gluconate is used as a source of iron (p.1949) for iron-deficiency anaemia (p.1951). It is given orally in doses of up to 1.8 g daily (equivalent to up to 210 mg of iron daily).

Preparations

BP 2008: Ferrous Gluconate Tablets;
USP 31: Ferrous Gluconate Capsules; Ferrous Gluconate Elixir; Ferrous Gluconate Tablets.

Proprietary Preparations (details are given in Part 3)
Austral.: Fergon†; ***Austria:*** Losferron; ***Belg.:*** Losferron; ***Canad.:*** Novo-Ferrogluc; ***Chile:*** Glucoferro K; ***Cz.:*** Losferron; ***Ger.:*** Eisen-Sandoz; Ferrum Verla; Losferron; Rulofer G; Vitaferro; ***Israel:*** Ferro; Ferro-Nes; ***Ital.:*** Auxofer; Bioferal; Bioglufer; Blizer; Blustark; Crom; Cromatonferro; Effegyn; Emonorm†; Emoxiron; Eriglobin; Eritropiu; Ferig; Ferro Complex; Ferrogyn; Flexifer†; Gloros; Glucoferro; Losferron; Megafer; Monoferro; Prontoferro; Sidervim; Sustemial; ***Neth.:*** Losferron; ***NZ:*** Fergon†; ***Pol.:*** Ascofer; ***Port.:*** Anemital†; Bioferro; Hemototal; Losferron†; ***Rus.:*** Ferronal (Ферронал); ***Spain:*** Ferrum Sandoz; Losferron; ***Switz.:*** Loesfer†; Lufer; ***Turk.:*** Losferron; ***USA:*** Fergon; ***Venez.:*** Ferroper†; Irolen†; Salfer; Yisafer.

Multi-ingredient: ***Austria:*** Losferron-Fol; ***Fr.:*** Tot'Hema; ***Ger.:*** Biovital Aktiv†; Ferro-C-Calcium; Ferrodix†; Floradix Krauterblut; ***India:*** Elferri†; Gynae-CVP; JP Tone; Livogen Hemtonic; Pentavite†; ***Indon.:*** Adfer; Biosanbe; Diabion; Emibion; Habebion; Inbion; Maltiron; Muveron; Neogobion; Opibion; Sangobion; Sangofer; Sangovitin; Tropifer; Vitabion; ***Malaysia:*** Sangobion; ***Philipp.:*** Sangobion; ***Pol.:*** Additiva Ferrum; ***Port.:*** Tot'Hema; ***Rus.:*** Tot'Hema (Тотема); ***S.Afr.:*** Kiddie Vite†; ***Singapore:*** Neogobion; Sangobion; ***Spain:*** Clamarvit†; ***Switz.:*** Duofer; Duofer Fol; Ferrascorbin; ***Thai.:*** Ferro-Be-Sian; Glufer-C; ***Turk.:*** Ferro-Vital; ***UK:*** Foresight Iron Formula; ***USA:*** Compete; Ferralet Plus†; Hytinic†; Iromin-G; Mission Surgical Supplement†; ***Venez.:*** Gestocal†.

Ferrous Glycine Sulfate

Demir Glisin Sülfat; Ferroglycini Sulfas; Ferroglycinsulfat; Ferroglysiinisulfaatti; Ferroso de glicina, sulfato; Ferrous Aminoacetosulphate; Ferrous Glycine Sulphate.

CAS — 14729-84-1.

ATC — B03AA01.

ATC Vet — QB03AA01.

Profile

Ferrous glycine sulfate is a chelate of ferrous sulfate and glycine used as a source of iron (p.1949) for iron-deficiency anaemia (p.1951). It is given orally in doses containing the equivalent of up to 150 mg of iron daily.

Preparations

Proprietary Preparations (details are given in Part 3)
Braz.: Neutrofer; ***Chile:*** Cheltin; ***Denm.:*** Glycifer; Niferex; ***Fin.:*** Obsidan; ***Ger.:*** Ferro Sanol; Ferro sanol duodenal; ***Gr.:*** Ferro Sanol; ***Irl.:*** Plesmet; ***Port.:*** Ferrocutid†; Niferex; ***Spain:*** Ferbisol; Ferro Sanol; Glutaferro; ***Swed.:*** Niferex; ***Switz.:*** Ferrosanol duodenal; ***Turk.:*** Ferro Sanol; ***UK:*** Plesmet†; ***USA:*** Gentle Iron; ***Venez.:*** Herronduo.

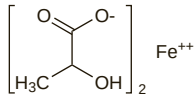
Multi-ingredient: ***Braz.:*** Neutrofer Folico; ***Fin.:*** Obsidan comp; ***Ger.:*** Ferro sanol comp; Ferro sanol gyn; ***India:*** Fecontin-F; Fecontin-Z; ***Turk.:*** Ferro Sanol B; ***USA:*** Repliva; ***Venez.:*** Herrongyn.

Ferrous Lactate

E585; Ferroso, lactato; Iron Lactate.

$C_6H_{10}FeO_6,3H_2O$ = 288.0.

CAS — 5905-52-2 (anhydrous ferrous lactate); 6047-24-1 (ferrous lactate trihydrate).



(anhydrous ferrous lactate)

Profile

Ferrous lactate is used as a source of iron (p.1949) for iron-deficiency anaemia (p.1951).

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Cromatonbic Ferro†; ***S.Afr.:*** Ferro Drops L; ***Spain:*** Cromatonbic Ferro.

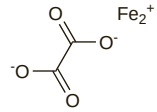
Multi-ingredient: ***Hung.:*** Fagifor†.

Ferrous Oxalate

Ferroso, oxalato; Ferrum Oxalicum Oxydulatum; Iron Protoxalate.

$C_2FeO_4,2H_2O$ = 179.9.

CAS — 516-03-0 (anhydrous ferrous oxalate); 6047-25-2 (ferrous oxalate dihydrate).



(anhydrous ferrous oxalate)

Profile

Ferrous oxalate has been used as a source of iron (p.1949).

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Fr.:*** Disulone.

Ferrous Succinate

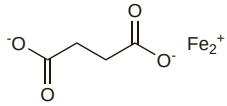
Ferroso, succinato.

$C_4H_4FeO_4$ = 171.9.

CAS — 10030-90-7.

ATC — B03AA06.

ATC Vet — QB03AA06.



Profile

Ferrous succinate is used as a source of iron (p.1949) for iron-deficiency anaemia (p.1951). It is given orally in doses of up to about 600 mg daily (equivalent to up to about 200 mg of iron daily).

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Ferdromaco; ***Ger.:*** Ferrlecit 2; ***Swed.:*** Ferromyn S.

Multi-ingredient: ***India:*** Hematrine.

Ferrous Sulfate

Demir Sülfat; Eisen(II)-Sulfat; Ferreux (Sulfate); Ferrosi Sulfas; Ferrosi sulfas heptahydricus; Ferroso, sulfato; Ferrosulfaattiheptahydraatti; Ferrosulfatheptahydrat; Ferrous Sulphate; Ferrum Sulfuricum Oxydulatum; Geležies(II) sulfatas heptahidratas; Iron (II) Sulphate Heptahydrate; Iron Sulphate; Síran železnatý heptahydrát; Sulfate ferreux heptahydraté; Vas(II)-szulfát; Železa(II) siarczan.

$FeSO_4,7H_2O$ = 278.0.

CAS — 7720-78-7 (anhydrous ferrous sulfate); 7782-63-0 (ferrous sulfate heptahydrate).

ATC — B03AA07.

ATC Vet — QB03AA07; QB03AD03.

NOTE. Crude ferrous sulfate is known as Green Vitriol or Green Copperas.

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, *Jpn*, *US*, and *Viet.*
Swiss also includes ferrous sulfate sesquihydrate.

Ph. Eur. 6.2 (Ferrous Sulphate Heptahydrate). A light green crystalline powder or bluish-green crystals, efflorescent in air. It is oxidised in moist air, becoming brown. Freely soluble in water; very soluble in boiling water; practically insoluble in alcohol. A 5% solution in water has a pH of 3.0 to 4.0. Store in airtight containers.

USP 31 (Ferrous Sulfate). Pale bluish-green, odourless, crystals or granules. It is efflorescent in dry air and oxidises readily in moist air to form brownish-yellow basic ferric sulfate. Soluble 1 in 1.5 of water and 1 in 0.5 of boiling water; insoluble in alcohol. A 10% solution in water is acid to litmus, having a pH of about 3.7. Store in airtight containers.

Dried Ferrous Sulfate *(USAN)*

Dried Ferrous Sulphate; Exsiccated Ferrous Sulphate; Ferreux (sulfate) desséché; Ferrosi sulfas desiccatus; Ferrosi Sulfas Exsiccatus; Ferroso desecado, sulfato.

CAS — 13463-43-9.

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

Ph. Eur. 6.2 (Ferrous Sulphate, Dried). Hydrated ferrous sulphate deprived of part of its water of hydration by drying. A greyish-white powder which is oxidised in moist air, becoming brown. It contains 86.0 to 90.0% of $FeSO_4$. Slowly but freely soluble in water, very soluble in boiling water; practically insoluble in alcohol. A 5% solution in water has a pH of 3.0 to 4.0. Store in airtight containers.

USP 31 (Dried Ferrous Sulfate). A greyish-white to buff-coloured powder consisting primarily of ferrous sulfate monohydrate with varying amounts of ferrous sulfate tetrahydrate. It contains 86.0 to 89.0% of $FeSO_4$. Slowly soluble in water; insoluble in alcohol.

Profile

Ferrous sulfate is used as a source of iron (p.1949) for iron-deficiency anaemia (p.1951). It is given orally; the dried form is often used in solid dosage forms and the heptahydrate in liquid dosage forms. Usual doses of dried ferrous sulfate are up to 600 mg daily (equivalent to 180 to 195 mg of iron daily, this figure being somewhat variable depending on the purity and water content of the salt).

Ferrous sulfate oxidised with nitric and sulfuric acids yields ferric subsulfate solution, also known as Monsel's solution, which has been used as a haemostatic.

Preparations

BP 2008: Ferrous Sulphate Tablets; Paediatric Ferrous Sulphate Oral Solution; Prolonged-release Ferrous Sulphate Tablets;
BPC 1973: Compound Ferrous Sulphate Tablets;
USP 31: Ferric Subsulfate Solution; Ferrous Sulfate Oral Solution; Ferrous Sulfate Syrup; Ferrous Sulfate Tablets.

Proprietary Preparations (details are given in Part 3)
Arg.: Eurofer; Factofer; Feklon; Fer-In-Sol; Ferlea†; Ferricol; Ferrocebrina; Ferromas; Ferromotion; Hemoferrol; Iberol; Medifer; Siderblut; Vitaferro†; ***Austral.:*** Ferro-Gradumet; Ferrograd C; ***Austria:*** Aktiferrin; Ferro-Gradumet; Ferrograd C; Infa-Tardyferon; Tardyferon; ***Belg.:*** Fero-Grad; Fero-Gradumet; ***Braz.:*** Anemiplus†; Cimefer; Fer-In-Sol; Ferrison†; Ferronil; Ferrosol; Ferrototal; Ferrotron†; Hematofer†; Iberol; Ironfer; Lomfer†; Neck-Fer†; Perfer†; Salonfer†; Sulfatofer†; Sulfer Plus; Sulfergan Composto; Sulferro; Sulferrol; Tratfer†; ***Canad.:*** Fer-In-Sol; Fero-Grad; Ferodan; Ferofate; Slow-Fe; ***Chile:*** Feninsol; Ferrigot; Ferromalt; Iberol Simple†; ***Cz.:*** Aktiferrin; Eisen-Diasporal†; Ferro-Gradumet†; Sorbifer; Tardyferon; ***Denm.:*** Ferro; ***Fin.:*** Duroferon; Retafer; ***Fr.:*** Fero-Grad vitamine C; Timoferol; ***Ger.:*** Aktiferrin N; Ceferro; Dreisafer; Eisendragees-ratiopharm; Eryfer; Ferrogamma; FERROinfant N†; Haemoprotect; Hamatopan; Kendural C; Plastufer; Plastulen; Tardyferon; Vitaferro; ***Gr.:*** Fer-In-Sol†; Microfer; Resoferon; Tardyferon; ***Hong Kong:*** Feospan†; Ferasul; Iron-200; ***Hung.:*** Aktiferrin; Ferro-Gradumet; Sorbifer; Tardyferon; ***Irl.:*** Feospan; Fer-In-Sol; Ferrograd; Ferrograd C; ***Israel:*** Ferro-Gradumet; Slow-Fe; ***Ital.:*** Fer-In-Sol; Ferrograd; Ferrograd C; ***Malaysia:*** Feospan†; Retafer; ***Mex.:*** Fer-In-Sol; Ferifer; Forcil; Hemobion; Valdefer; ***Neth.:*** Fero-Gradumet; Ferrograd; Protiferron; ***Norw.:*** Duroferon; Ferromax; Nycoplus Ferro-Retard; ***NZ:*** Ferro-Gradumet; Ferrograd C; ***Philipp.:*** Feosol; Feovit; Fer-In-Sol; Ferglobin; Ferosal; Sorbifer; United Home Fersulfate Iron; ***Pol.:*** Ferro-Gradumet; Hemofer; Sorbifer; Tardyferon; ***Port.:*** Ferro-Gradumet; Tardyferon; ***Rus.:*** Aktiferrin (Актиферрин); Ferro-Gradumet (Ферроградумет); Ferroplex (Ферроплекс); Hemofer (Гемофер); Sorbifer (Сорбифер); Tardyferon (Тардиферон); ***S.Afr.:*** Fero-Grad; Fesofor; ***Singapore:*** Feospan†; ***Spain:***