

Ethylcellulose: Free-flowing, white to light tan powder. It forms films that have a refractive index of about 1.47. Its aqueous suspensions are neutral to litmus. Ethylcellulose containing less than 46.5% of ethoxy groups is freely soluble in tetrahydrofuran, in methyl acetate, in chloroform, and in mixtures of aromatic hydrocarbons with alcohol; Ethylcellulose containing not less than 46.5% of ethoxy groups is freely soluble in alcohol, in methanol, in toluene, in chloroform, and in ethyl acetate; insoluble in water, in glycerin, and in propylene glycol. *NF category:* Coating agent; tablet binder.

Add the following:

▲Ethylcellulose Dispersion Type B: Off-white and slightly viscous liquid. Soluble in alcohol, in methyl alcohol, in toluene, in chloroform, and in ethyl acetate; insoluble in water, in glycerin, and in propylene glycol. *NF category:* Coating agent; film-forming agent. ▲*NF30*

Ethylenediamine: Clear, colorless or only slightly yellow liquid, having an ammonia-like odor and a strong alkaline reaction. Miscible with water and with alcohol.

Ethylene Glycol Stearates: White or almost white, waxy solid. Soluble in acetone and in hot alcohol; practically insoluble in water. *NF category:* Emulsifying and/or solubilizing agent.

Ethylene Glycol and Vinyl Alcohol Graft Copolymer: White or slightly yellowish powder. Very soluble in water; practically insoluble in anhydrous alcohol, and in acetone. It dissolves in dilute acids and dilute solutions of alkali hydroxides. *NF category:* Coating agent; tablet binder.

Ethylparaben: Small, colorless crystals or white powder. Freely soluble in acetone, in alcohol, in ether, and in propylene glycol; slightly soluble in water and in glycerin. *NF category:* Antimicrobial preservative.

Ethynodiol Diacetate: White, odorless, crystalline powder. Is stable in air. Very soluble in chloroform; freely soluble in ether; soluble in alcohol; sparingly soluble in fixed oils; insoluble in water.

Etidronate Disodium: White powder, which may contain lumps. Freely soluble in water; practically insoluble in alcohol.

Etomidate: White or almost white powder. Freely soluble in alcohol and in methylene chloride; very slightly soluble in water.

Etoposide: Fine, white to off-white, crystalline powder. Sparingly soluble in methanol; slightly soluble in alcohol, in chloroform, in ethyl acetate, and in methylene chloride; very slightly soluble in water.

Eugenol: Colorless or pale yellow liquid, having a strongly aromatic odor of clove and a pungent, spicy taste. Upon exposure to air, it darkens and thickens. Is optically inactive. Slightly soluble in water. Miscible with alcohol, with chloroform, with ether, and with fixed oils.

Famotidine: White to pale yellowish-white, crystalline powder. Is sensitive to light. Freely soluble in dimethylformamide and in glacial acetic acid; slightly soluble in methanol; very slightly soluble in water; practically insoluble in acetone, in alcohol, in chloroform, in ether, and in ethyl acetate.

Hard Fat: White mass; almost odorless and free from rancid odor; greasy to the touch. On warming, melts to give a colorless or slightly yellowish liquid. When the molten material is shaken with an equal quantity of hot water, a white emulsion is formed. Freely soluble in ether; slightly soluble in alcohol; practically insoluble in water. *NF category:* Stiffening agent; suppository base.

Felodipine: Light yellow to yellow, crystalline powder. Freely soluble in acetone and in methanol; very slightly soluble in heptane; insoluble in water.

Fenbendazole: White to off-white powder. Sparingly soluble in dimethylformamide; very slightly soluble in methanol; practically insoluble in water.

Fenofibrate: White or almost white, crystalline powder. Very soluble in methylene chloride; slightly soluble in alcohol; practically insoluble in water.

Fenoldopam Mesylate: White to off-white powder. Soluble in water.

Fenoprofen Calcium: White, crystalline powder. Slightly soluble in *n*-hexanol, in methanol, and in water; practically insoluble in chloroform.

Fentanyl Citrate: White, crystalline powder or white, glistening crystals. Melts at about 150°, with decomposition. Soluble in methanol; sparingly soluble in water; slightly soluble in chloroform.

Ferric Oxide: Powder exhibiting two basic colors (red and yellow), or other shades produced on blending the basic colors. Insoluble in water and in organic solvents; dissolves in hydrochloric acid upon warming, a small amount of insoluble residue usually remaining. *NF category:* Color.

Ferric Subsulfate Solution: Reddish-brown liquid, odorless or nearly so. Acid to litmus, and is affected by light. Specific gravity is about 1.548.

Ferric Sulfate: Grayish-white or yellowish powder or fawn-colored pearls. Hygroscopic. Slightly soluble in water and in ethanol (96%); practically insoluble in acetone and in ethyl acetate. Hydrolyzes slowly in aqueous solution.

Ferrous Fumarate: Reddish-orange to red-brown, odorless powder. May contain soft lumps that produce a yellow streak when crushed. Slightly soluble in water; very slightly soluble in alcohol. Its solubility in dilute hydrochloric acid is limited by the separation of fumaric acid.

Ferrous Gluconate: Yellowish-gray or pale greenish-yellow, fine powder or granules, having a slight odor resembling that of burned sugar. Its solution (1 in 20) is acid to litmus. Soluble in water, with slight heating; practically insoluble in alcohol.

Ferrous Sulfate: Pale, bluish-green crystals or granules. Is odorless and is efflorescent in dry air. Oxidizes readily in moist air to form brownish yellow basic ferric sulfate. Its solution (1 in 10) is acid to litmus, having a pH of about 3.7. Very soluble in boiling water; freely soluble in water; insoluble in alcohol.

Dried Ferrous Sulfate: Grayish-white to buff-colored powder, consisting primarily of $\text{FeSO}_4 \cdot \text{H}_2\text{O}$ with varying amounts of $\text{FeSO}_4 \cdot 4\text{H}_2\text{O}$. Slowly soluble in water; insoluble in alcohol.

Ferumoxides Injection: Black to reddish-brown, aqueous colloid. It is stable for 24 hours after dilution.

Finasteride: White to off-white, crystalline solid. Melts at about 257°. Freely soluble in chloroform and in alcohol; very slightly soluble in water.

Fish Oil Containing Omega-3 Acids: Pale yellow liquid. Very soluble in acetone and in heptane; slightly soluble in anhydrous alcohol; practically insoluble in water.

Flavoxate Hydrochloride: White or almost white, crystalline powder. Slightly soluble in alcohol, in water, and in methylene chloride.

Flecainide Acetate: White to slightly off-white, crystalline powder. Freely soluble in alcohol; soluble in water. pK_a is 9.3.

Fluconazole: White or almost white, crystalline powder. Freely soluble in methanol; soluble in alcohol and in acetone; sparingly soluble in isopropanol and in chloroform; slightly soluble in water; very slightly soluble in toluene.

Flucytosine: White to off-white, crystalline powder. Is odorless or has a slight odor. Sparingly soluble in water; slightly soluble in alcohol; practically insoluble in chloroform and in ether.

Fludarabine Phosphate: White to off-white, crystalline, hygroscopic powder. Freely soluble in dimethylformamide; slightly soluble in water and in 0.1 M hydrochloric acid; practically insoluble in ethanol.

Fludrocortisone Acetate: White to pale yellow crystals or crystalline powder. Is odorless or practically odorless. Is hygroscopic. Sparingly soluble in alcohol and in chloroform; slightly soluble in ether; insoluble in water.

Flumazenil: White to off-white powder. Slightly soluble in acidic aqueous solutions; practically insoluble in water.

Flumethasone Pivalate: White to off-white, crystalline powder. Slightly soluble in methanol; very slightly soluble in chloroform and in methylene chloride; insoluble in water.

Flunisolide: White to creamy-white, crystalline powder. Melts at about 245°, with decomposition. Soluble in acetone; sparingly soluble in chloroform; slightly soluble in methanol; practically insoluble in water.

Flunixin Meglumine: White to off-white crystalline powder. Soluble in water, in alcohol, and in methanol; practically insoluble in ethyl acetate.

Fluocinolone Acetonide: White or practically white, odorless, crystalline powder. Is stable in air. Melts at about 270°, with decomposition. Soluble in methanol; slightly soluble in ether and in chloroform; insoluble in water.

Fluocinonide: White to cream-colored, crystalline powder, having not more than a slight odor. Sparingly soluble in acetone and in chloroform; slightly soluble in alcohol, in methanol, and in dioxane; very slightly soluble in ether; practically insoluble in water.

Fluorescein: Yellowish-red to red, odorless powder. Soluble in dilute alkali hydroxides; insoluble in water.

Fluorescein Sodium: Orange-red, hygroscopic, odorless powder. Freely soluble in water; sparingly soluble in alcohol.

Fluorescein Sodium Ophthalmic Strip: Each Strip is a dry, white piece of paper, one end of which is rounded and is uniformly orange-red in color because of the fluorescein sodium impregnated in the paper.

Fluorometholone: White to yellowish-white, odorless, crystalline powder. Melts at about 280°, with some decomposition. Slightly soluble in alcohol; very slightly soluble in chloroform and in ether; practically insoluble in water.

Fluorouracil: White to practically white, practically odorless, crystalline powder. Decomposes at about 282°. Sparingly soluble in water; slightly soluble in alcohol; practically insoluble in chloroform and in ether.

Fluoxetine Hydrochloride: White to off-white crystalline powder. Freely soluble in alcohol and in methanol; sparingly soluble in water and in dichloromethane; practically insoluble in ether.

Fluoxymesterone: White or practically white, odorless, crystalline powder. Melts at about 240°, with some decomposition. Sparingly soluble in alcohol; slightly soluble in chloroform; practically insoluble in water.

Fluphenazine Enanthate: Pale yellow to yellow-orange, clear to slightly turbid, viscous liquid, having a characteristic odor. Is unstable in strong light, but stable to air at room temperature. Freely soluble in alcohol, in chloroform, and in ether; insoluble in water.

Fluphenazine Hydrochloride: White or nearly white, odorless, crystalline powder. Melts, within a range of 5°, at a temperature above 225°. Freely soluble in water; slightly soluble in acetone, in alcohol, and in chloroform; practically insoluble in benzene and in ether.

Flurandrenolide: White to off-white, fluffy, crystalline powder. Is odorless. Freely soluble in chloroform; soluble in methanol; sparingly soluble in alcohol; practically insoluble in water and in ether.

Flurazepam Hydrochloride: Off-white to yellow, crystalline powder. Is odorless, or has a slight odor, and its solutions are acid to litmus. Melts at about 212°, with decom-

position. Freely soluble in water and in alcohol; slightly soluble in isopropyl alcohol and in chloroform.

Flurbiprofen: White, crystalline powder. Freely soluble in acetone, in dehydrated alcohol, in ether, and in methanol; soluble in acetonitrile; practically insoluble in water. Optically inactive (1 in 50 solution in dehydrated alcohol).

Flutamide: Pale yellow, crystalline powder. Freely soluble in acetone, in ethyl acetate, and in methanol; soluble in chloroform and in ether; practically insoluble in mineral oil, in petroleum ether, and in water.

Fluticasone Propionate (micronized): Fine, white powder.

Fluvastatin Sodium: White to pale yellow, brownish-pale yellow, or reddish-pale yellow, hygroscopic powder. Soluble in alcohol, in methanol, and in water.

Flvoxamine Maleate: White to off-white, crystalline powder. Freely soluble in alcohol and in chloroform; sparingly soluble in water; and practically insoluble in diethyl ether.

Folic Acid: Yellow, yellow-brownish, or yellowish-orange, odorless, crystalline powder. It readily dissolves in dilute solutions of alkali hydroxides and carbonates. Soluble in hot, 3 N hydrochloric acid, in hot, 2 N sulfuric acid, in hydrochloric acid, and in sulfuric acid, yielding very pale yellow solutions; very slightly soluble in water; insoluble in alcohol, in acetone, in chloroform, and in ether.

Folic Acid Injection: Clear, yellow to orange-yellow, alkaline liquid.

Formaldehyde Solution: Clear, colorless or practically colorless liquid, having a pungent odor. The vapor from it irritates the mucous membrane of the throat and nose. On long standing, especially in the cold, it may become cloudy because of the separation of paraformaldehyde. This cloudiness disappears when the solution is warmed. Miscible with water and with alcohol.

Formoterol Fumarate Dihydrate: White or almost white or slightly yellow powder. Freely soluble in dimethyl sulfoxide and in acetic acid; soluble in methanol; slightly soluble in water and in 2-propanol; practically insoluble in acetonitrile and in diethyl ether.

Foscarnet Sodium: White to almost white, crystalline powder. Soluble in water; practically insoluble in alcohol.

Fosphenytoin Sodium: White to pale yellow solid. Freely soluble in water.

Fructose: Colorless crystals or as a white, crystalline powder. Is odorless, and has a sweet taste. Freely soluble in water; soluble in alcohol and in methanol. *NF category:* Sweetening agent; tablet and/or capsule diluent.

Basic Fuchsin: Dark green powder or greenish glistening crystalline fragments, having a bronze-like luster and not more than a faint odor. Soluble in water, in alcohol, and in amyl alcohol; insoluble in ether.

Fulvestrant: White powder. Freely soluble in alcohol.

Fumaric Acid: White, odorless granules or crystalline powder. Soluble in alcohol; slightly soluble in water and in ether; very slightly soluble in chloroform. *NF category:* Acidifying agent.

Furazolidone: Yellow, odorless, crystalline powder. Is tasteless at first, then a bitter aftertaste develops. Practically insoluble in water, in alcohol, and in carbon tetrachloride.

Furosemide: White to slightly yellow, odorless, crystalline powder. Freely soluble in acetone, in dimethylformamide, and in solutions of alkali hydroxides; soluble in methanol; sparingly soluble in alcohol; slightly soluble in ether; very slightly soluble in chloroform; practically insoluble in water.

Furosemide Injection: Clear, colorless solution.

Gabapentin: White to off-white, crystalline solid. Freely soluble in water and in alkaline and acidic solutions.

Gadodiamide: White, odorless powder. Freely soluble in water and in methanol; soluble in ethyl alcohol; slightly soluble in acetone and in chloroform.

Gadoteridol: White to off-white, crystalline, odorless powder. Freely soluble in water and in methyl alcohol; soluble in isopropyl alcohol. Melts at about 300°.

Gadoversetamide: White, odorless powder. Freely soluble in water.

Galactose: A white, crystalline or finely granulated powder. Soluble in water; very slightly soluble in alcohol. *NF category:* Sweetening agent.

Galantamine Hydrobromide: White to almost white powder. Soluble in 0.1 N sodium hydroxide; sparingly soluble in water; very slightly soluble in alcohol; insoluble in *n*-propanol.

Gallamine Triethiodide: White, odorless, amorphous powder. Is hygroscopic. Very soluble in water; sparingly soluble in alcohol; very slightly soluble in chloroform.

Gamma Cyclodextrin: White or almost white, amorphous or crystalline powder. Freely soluble in water and in propylene glycol; very slightly soluble in alcohol. *NF category:* Sequestering agent; emulsifying and/or solubilizing agent.

Ganciclovir: White to off-white, crystalline powder.

Ganciclovir for Injection: White to off-white powder. Soluble in water.

Petrolatum Gauze: The petrolatum recovered by draining in the *Assay* is a white or faintly yellowish, unctuous mass, transparent in thin layers even after cooling to 0°.

Gelatin: Sheets, flakes, or shreds, or coarse to fine powder. Is faintly yellow or amber in color, the color varying in depth according to the particle size. Has a slight, characteristic bouillon-like odor in solution. Is stable in air when dry, but is subject to microbic decomposition when moist or in solution. Gelatin has any suitable strength that is designated by Bloom Gelometer number (see *Gel Strength of Gelatin* (1081)). Type A Gelatin exhibits an isoelectric point between pH 7 and pH 9, and Type B Gelatin exhibits an isoelectric point between pH 4.7 and pH 5.2. Soluble in hot water, in 6 N acetic acid, and in a hot mixture of glycerin and water; insoluble in cold water, but swells and softens when immersed in it, gradually absorbing from 5 to 10 times its own weight of water, in alcohol, in chloroform, in ether, and in fixed and volatile oils. *NF category:* Coating agent; suspending and/or viscosity-increasing agent; tablet binder.

Absorbable Gelatin Film: Light amber, transparent, pliable film which becomes rubbery when moistened. Insoluble in water.

Absorbable Gelatin Sponge: Light, nearly white, nonelastic, tough, porous, hydrophilic solid. Insoluble in water.

Gellan Gum: Off-white powder. Soluble in hot or in cold deionized water. *NF category:* Suspending and/or viscosity-increasing agent.

Gemcitabine Hydrochloride: White to off-white solid. Soluble in water; slightly soluble in methanol; practically insoluble in alcohol and in polar organic solvents.

Gemfibrozil: White, waxy, crystalline solid. Soluble in alcohol, in methanol, and in chloroform; practically insoluble in water.

Gentamicin Sulfate: White to buff powder. Freely soluble in water; insoluble in alcohol, in acetone, in chloroform, in ether, and in benzene.

Gentamicin Injection: Clear, slightly yellow solution, having a faint odor.

Gentian Violet: Dark green powder or greenish, glistening pieces having a metallic luster, and having not more than a faint odor. Soluble in alcohol, in glycerin, and in chloroform; sparingly soluble in water; insoluble in ether.

Gentian Violet Cream: Dark purple, water-washable cream.

Gentian Violet Topical Solution: Purple liquid, having a slight odor of alcohol. A dilution (1 in 100), viewed downward through 1 cm of depth, is deep purple in color.

Powdered Asian Ginseng Extract: Pale yellow-brown, hygroscopic, powdery or easily pulverizable mass. Soluble in water, forming a slightly cloudy solution.

Glaze, Pharmaceutical: Denatured alcohol solution. *NF category:* Coating agent.

Glimepiride: White to almost white powder. Soluble in dimethylformamide; sparingly soluble in methylene chloride; slightly soluble in methanol; practically insoluble in water.

Glipizide: White to off-white powder. Freely soluble in dimethylformamide; soluble in 0.1 N sodium hydroxide; slightly soluble in methylene chloride.

Immune Globulin: Transparent or slightly opalescent liquid, either colorless or of a brownish color due to denatured hemoglobin. Is practically odorless. May develop a slight, granular deposit during storage.

Rh₀(D) Immune Globulin: Transparent or slightly opalescent liquid. Is practically colorless and odorless. May develop a slight, granular deposit during storage.

Glucagon: Fine, white or faintly colored, crystalline powder. Is practically odorless and tasteless. Soluble in dilute alkali and acid solutions; insoluble in most organic solvents.

Glucagon for Injection: White, odorless powder.

Gluconolactone: Fine, white, practically odorless, crystalline powder. Melts at about 153°, with decomposition. Freely soluble in water; sparingly soluble in alcohol; insoluble in ether.

Liquid Glucose: Colorless or yellowish, thick, syrupy liquid. Odorless or nearly odorless, and has a sweet taste. Sparingly soluble in alcohol. Miscible with water. *NF category:* Tablet binder.

L-Glutamic Acid Hydrochloride: A white, crystalline powder. 1 g dissolves in about 3 mL of water. It is almost insoluble in alcohol and in ether. Its solutions are acid to litmus. *NF category:* Flavors and perfumes.

Glutamine: White crystals or crystalline powder. Soluble in water; practically insoluble in alcohol and in ether.

Glutaral Concentrate: Clear, colorless or faintly yellow liquid, having a characteristic, irritating odor.

Glycerin: Clear, colorless, syrupy liquid, having a sweet taste. Has not more than a slight characteristic odor, which is neither harsh nor disagreeable. Is hygroscopic. Its solutions are neutral to litmus. Insoluble in chloroform, in ether, and in fixed and volatile oils. Miscible with water and with alcohol. *NF category:* Humectant; plasticizer; solvent; tonicity agent.

Glyceryl Behenate: Fine powder, having a faint odor. Melts at about 70°. Soluble in chloroform; practically insoluble in water and in alcohol.

Glyceryl Distearate: Hard, waxy mass or powder or white or almost white flakes. Soluble in methylene chloride and in tetrahydrofuran; slightly soluble in hot alcohol; insoluble in water. *NF category:* Emulsifying and/or solubilizing agent.

Glyceryl Monolinoleate: Amber, oily liquids that may be partially solidified at room temperature. Freely soluble in methylene chloride; soluble in tetrahydrofuran; practically insoluble in water. *NF category:* Emulsifying and/or solubilizing agent.

Glyceryl Monooleate: Amber, oily liquids that may be partially solidified at room temperature. Freely soluble in methylene chloride; soluble in tetrahydrofuran; practically insoluble in water. *NF category:* Emulsifying and/or solubilizing agent.

Glyceryl Monostearate: White to yellowish wax-like solid; or white to yellowish wax-like beads, flakes, or powder. Slight, agreeable, fatty odor and taste. Is affected by