

**Hypromellose:** White to slightly off-white, fibrous or granular powder. Swells in water and produces a clear to opalescent, viscous, colloidal mixture. Insoluble in dehydrated alcohol, in ether, and in chloroform. *NF category:* Coating agent; suspending and/or viscosity-increasing agent; tablet binder.

**Hypromellose 2208:** White to slightly off-white, fibrous or granular powder. Swells in water and produces a clear to opalescent, viscous, colloidal mixture. Insoluble in dehydrated alcohol, in ether, and in chloroform. *NF category:* Coating agent; suspending and/or viscosity-increasing agent; tablet binder.

**Hypromellose 2906:** White to slightly off-white, fibrous or granular powder. Swells in water and produces a clear to opalescent, viscous, colloidal mixture. Insoluble in dehydrated alcohol, in ether, and in chloroform. *NF category:* Coating agent; suspending and/or viscosity-increasing agent; tablet binder.

**Hypromellose 2910:** White to slightly off-white, fibrous or granular powder. Swells in water and produces a clear to opalescent, viscous, colloidal mixture. Insoluble in dehydrated alcohol, in ether, and in chloroform. *NF category:* Coating agent; suspending and/or viscosity-increasing agent; tablet binder.

**Hypromellose Acetate Succinate:** White to yellowish-white powder or pills. Odorless, or has a faint, acetic acid-like odor, and tasteless. Practically insoluble in water, in dehydrated alcohol, in xylene, and in hexane. On the addition of a mixture of dehydrated alcohol and dichloromethane (1:1) or acetone, a clear or turbid viscous liquid is produced. Dissolves in 1 N sodium hydroxide. Slightly hygroscopic. *NF category:* Coating agent; tablet binder.

**Hypromellose Phthalate:** White powder or granules. Is odorless and tasteless. Practically insoluble in water, in dehydrated alcohol, and in hexane. Produces a viscous solution in a mixture of methanol and dichloromethane (1:1), or in a mixture of dehydrated alcohol and acetone (1:1). Dissolves in 1 N sodium hydroxide. *NF category:* Coating agent.

**Ibuprofen:** White to off-white, crystalline powder, having a slight, characteristic odor. Very soluble in alcohol, in methanol, in acetone, and in chloroform; slightly soluble in ethyl acetate; practically insoluble in water.

**Ichthammol:** Reddish-brown to brownish-black, viscous fluid, having a strong, characteristic, empyreumatic odor. Miscible with water, with glycerin, and with fixed oils and fats. Partially soluble in alcohol and in ether.

**Idarubicin Hydrochloride:** Red-orange to red-brown powder. Soluble in methanol; slightly soluble in water; insoluble in acetone and in ethyl ether.

**Idoxuridine:** White, crystalline, practically odorless powder. Slightly soluble in water and in alcohol; practically insoluble in chloroform and in ether.

**Ifosfamide:** White, crystalline powder. Melts at about 40°. Very soluble in alcohol, in ethyl acetate, in isopropyl alcohol, in methanol, and in methylene chloride; freely soluble in water; very slightly soluble in hexanes.

**Imidurea:** White, odorless, tasteless powder. Soluble in water and in glycerin; sparingly soluble in propylene glycol; insoluble in most organic solvents.

**Imipenem:** White to tan-colored crystalline powder. Slightly soluble in water and in methanol.

**Imipramine Hydrochloride:** White to off-white, odorless or practically odorless, crystalline powder. Freely soluble in water and in alcohol; soluble in acetone; insoluble in ether and in benzene.

**Inamrinone:** Pale yellow to tan powder. It is odorless or has a faint odor. Slightly soluble in methanol; practically insoluble or insoluble in chloroform and in water.

**Indapamide:** White to off-white, crystalline powder. Melts between 167° and 170°. Soluble in methanol, in alcohol, in acetonitrile, in glacial acetic acid, and in ethyl ace-

tate; very slightly soluble in ether and in chloroform; practically insoluble in water.

**Indigotindisulfonate Sodium:** Dusky, purplish-blue powder, or blue granules having a coppery luster. Is affected by light. Its solutions have a blue or bluish purple color. Slightly soluble in water and in alcohol; practically insoluble in most other organic solvents.

**Indinavir Sulfate:** White or almost white, hygroscopic powder. Freely soluble in water; soluble in methanol; practically insoluble in heptane.

**Indocyanine Green:** Olive-brown, dark green, blue-green, dark blue, or black powder. Is odorless or has a slight odor. Its solutions are deep emerald-green in color. The pH of a solution (1 in 200) is about 6. Its aqueous solutions are stable for about 8 hours. Soluble in water and in methanol; practically insoluble in most other organic solvents.

**Indomethacin:** Pale yellow to yellow-tan, crystalline powder, having not more than a slight odor. Is sensitive to light. Melts at about 162°. Exhibits polymorphism. Sparingly soluble in alcohol, in chloroform, and in ether; practically insoluble in water.

**Influenza Virus Vaccine:** Slightly turbid liquid or suspension, which may have a slight yellow or reddish tinge and may have an odor because of the preservative.

**Inositol:** White or almost white, crystalline powder. Very soluble in water; practically insoluble in alcohol absolute and in ether.

**Insulin:** White or practically white crystals. Soluble in solutions of dilute acids and alkalis.

**Insulin Injection:** The Injection containing, in each mL, not more than 100 USP Units is a clear, colorless or almost colorless liquid; the Injection containing, in each mL, 500 Units may be straw-colored. Contains between 0.1% and 0.25% (w/v) of either phenol or cresol. Contains between 1.4% and 1.8% (w/v) of glycerin.

**Insulin Lispro:** White or practically white crystals. Soluble in solutions of dilute acids and alkalis.

**Isothane Insulin Suspension:** White suspension of rod-shaped crystals, free from large aggregates of crystals following moderate agitation. Contains either (1) between 1.4% and 1.8% (w/v) of glycerin, between 0.15% and 0.17% (w/v) of metacresol, and between 0.06% and 0.07% (w/v) of phenol; or (2) between 1.4% and 1.8% (w/v) of glycerin and between 0.20% and 0.25% (w/v) of phenol. Contains between 0.15% and 0.25% (w/v) of dibasic sodium phosphate. When examined microscopically, the insoluble matter in the Suspension is crystalline, and contains not more than traces of amorphous material.

**Insulin Zinc Suspension:** Practically colorless suspension of a mixture of characteristic crystals predominantly between 10 and 40 µm in maximum dimension and many particles that have no uniform shape and do not exceed 2 µm in maximum dimension. Contains between 0.15% and 0.17% (w/v) of sodium acetate, between 0.65% and 0.75% (w/v) of sodium chloride, and between 0.09% and 0.11% (w/v) of methylparaben.

**Extended Insulin Zinc Suspension:** Practically colorless suspension of a mixture of characteristic crystals the maximum dimension of which is predominantly between 10 and 40 µm. Contains between 0.15% and 0.17% (w/v) of sodium acetate, between 0.65% and 0.75% (w/v) of sodium chloride, and between 0.09% and 0.11% (w/v) of methylparaben.

**Prompt Insulin Zinc Suspension:** Practically colorless suspension of particles that have no uniform shape and the maximum dimension of which does not exceed 2 µm. Contains between 0.15% and 0.17% (w/v) of sodium acetate, between 0.65% and 0.75% (w/v) of sodium chloride, and between 0.09% and 0.11% (w/v) of methylparaben.

**Inulin:** White, friable, chalk-like, amorphous, odorless, tasteless powder. Soluble in hot water; slightly soluble in cold water and in organic solvents.

**Iodine:** Heavy, grayish-black plates or granules, having a metallic luster and a characteristic odor. Freely soluble in carbon disulfide, in chloroform, in carbon tetrachloride, and in ether; soluble in alcohol and in solutions of iodides; sparingly soluble in glycerin; very slightly soluble in water.

**Iodine Topical Solution:** Transparent, reddish-brown liquid, having the odor of iodine.

**Strong Iodine Solution:** Transparent liquid having a deep brown color and having the odor of iodine.

**Iodine Tincture:** Transparent liquid having a reddish-brown color and the odor of iodine and of alcohol.

**Sodium Iodide I 123 Capsules:** Capsules may contain a small amount of solid or solids, or may appear empty.

**Sodium Iodide I 123 Solution:** Clear, colorless solution. Upon standing, both the Solution and the glass container may darken as a result of the effects of the radiation.

**Iodinated I 125 Albumin Injection:** Clear, colorless to slightly yellow solution. Upon standing, both the Albumin and the glass container may darken as a result of the effects of the radiation.

**Iodinated I 131 Albumin Injection:** Clear, colorless to slightly yellow solution. Upon standing, both the Albumin and the glass container may darken as a result of the effects of the radiation.

**Iodinated I 131 Albumin Aggregated Injection:** Dilute suspension of white to faintly yellow particles, which may settle on standing. The glass container may darken on standing, as a result of the effects of the radiation.

**Sodium Rose Bengal I 131 Injection:** Clear, deep-red solution.

**Iodohippurate Sodium I 131 Injection:** Clear, colorless solution. Upon standing, both the Injection and the glass container may darken as a result of the effects of the radiation.

**Sodium Iodide I 131 Capsules:** May contain a small amount of solid or solids, or may appear empty.

**Sodium Iodide I 131 Solution:** Clear, colorless solution. Upon standing, both the Solution and the glass container may darken as a result of the effects of the radiation.

**Iodipamide:** White, practically odorless, crystalline powder. Slightly soluble in alcohol; very slightly soluble in water, in chloroform, and in ether.

**Iodipamide Meglumine Injection:** Clear, colorless to pale yellow, slightly viscous liquid.

**Iodixanol:** White to off-white, amorphous, odorless, hygroscopic powder. Freely soluble in water.

**Iodoform:** Lustrous greenish yellow powder, or lustrous crystals. It is slightly volatile even at ordinary temperatures, and distills slowly with steam. Freely soluble in ether and in chloroform; soluble in boiling alcohol; sparingly soluble in alcohol, in glycerin, and in olive oil; practically insoluble in water. Melts to a brown liquid at about 115°, and decomposes at a higher temperature, emitting vapors of iodine.

**Iodoquinol:** Light yellowish to tan, microcrystalline powder not readily wetted by water. Is odorless or has a faint odor; is stable in air. Melts with decomposition. Sparingly soluble in alcohol and in ether; practically insoluble in water.

**Iohexol:** White to off-white, hygroscopic, odorless powder. Very soluble in water and in methanol; practically insoluble or insoluble in ether and in chloroform.

**Iohexol Injection:** Clear, colorless to pale yellow liquid.

**Iopamidol:** Practically odorless, white to off-white powder. Very soluble in water; sparingly soluble in methanol; practically insoluble in alcohol and in chloroform.

**Iopanoic Acid:** Cream-colored powder. Is tasteless or practically so, and has a faint, characteristic odor. Is affected by light. Soluble in alcohol, in chloroform, and in ether, and in solutions of alkali hydroxides and carbonates; insoluble in water.

**Iophendylate:** Colorless to pale yellow, viscous liquid, the color darkening on long exposure to air. Is odorless or has a faintly ethereal odor. Freely soluble in alcohol, in benzene, in chloroform, and in ether; very slightly soluble in water.

**Iophendylate Injection:** Colorless to pale yellow, viscous liquid, the color darkening on long exposure to air. Is odorless or has a faintly ethereal odor. Freely soluble in alcohol, in benzene, in chloroform, and in ether; very slightly soluble in water.

**Iopromide:** White to slightly yellow powder. Freely soluble in water and in dimethyl sulfoxide; practically insoluble in alcohol, in acetone, and in ether.

**Iothalamate Meglumine Injection:** Clear, colorless to pale yellow, slightly viscous liquid.

**Iothalamate Meglumine and Iothalamate Sodium Injection:** Clear, colorless to pale yellow, slightly viscous liquid.

**Iothalamate Sodium Injection:** Clear, colorless to pale yellow, slightly viscous liquid.

**Iothalamic Acid:** White, odorless powder. Soluble in solutions of alkali hydroxides; slightly soluble in water and in alcohol.

**Ioxilan:** White to off-white, practically odorless powder. Soluble in water and in methanol.

**Ioxilan Injection:** Clear, colorless to pale yellow liquid.

**Powdered Ipecac:** Pale brown, weak yellow, or light olive-gray powder.

**Iodate Sodium:** White to off-white, odorless, fine, crystalline powder. Freely soluble in water, in alcohol, and in methanol; very slightly soluble in chloroform.

**Ipratropium Bromide:** White to off-white, crystalline powder. Freely soluble in methanol; soluble in water; slightly soluble in alcohol.

**Irbesartan:** White to off-white, crystalline powder. Slightly soluble in alcohol and in methylene chloride; practically insoluble in water.

**Irinotecan Hydrochloride:** Pale yellow to yellow crystalline powder. Sparingly soluble in water and in alcohol; slightly soluble in most organic solvents.

**Iron Dextran Injection:** Dark brown, slightly viscous liquid.

**Iron Sorbitex Injection:** Clear liquid, having a dark brown color.

**Isobutane:** Colorless, flammable gas (boiling temperature is about  $-11^{\circ}$ ). Vapor pressure at  $21^{\circ}$  is about 2950 mm of mercury (31 psig). *NF category:* Aerosol propellant.

**Isoetharine Inhalation Solution:** Colorless or slightly yellow, slightly acid liquid, gradually turning dark on exposure to air and light.

**Isoetharine Hydrochloride:** White to off-white, odorless, crystalline solid. Melts between  $196^{\circ}$  and  $208^{\circ}$ , with decomposition. Soluble in water; sparingly soluble in alcohol; practically insoluble in ether.

**Isoetharine Mesylate:** White or practically white, odorless crystals having a salty, bitter taste. Freely soluble in water; soluble in alcohol; practically insoluble in acetone and in ether.

**Isflurane:** Clear, colorless, volatile liquid, having a slight odor. Boils at about  $49^{\circ}$ . Insoluble in water. Miscible with common organic solvents and with fats and oils.

**Isoflurophate:** Clear, colorless or faintly yellow liquid. Its vapor is extremely irritating to the eye and mucous membranes. Is decomposed by moisture, with the formation of hydrogen fluoride. Specific gravity is about 1.05. Soluble in alcohol and in vegetable oils; sparingly soluble in water.

**Isoleucine:** White, practically odorless crystals, having a slightly bitter taste. Soluble in water; slightly soluble in hot alcohol; insoluble in ether.

**Isomethoptene Mucate:** White, crystalline powder. Freely soluble in water; soluble in alcohol; practically insoluble in chloroform and in ether.

**Isoniazid:** Colorless or white crystals or white, crystalline powder. Is odorless and is slowly affected by exposure to air and light. Freely soluble in water; sparingly soluble in alcohol; slightly soluble in chloroform; very slightly soluble in ether.

**Isoniazid Injection:** Clear, colorless to faintly greenish-yellow liquid. Gradually darkens on exposure to air and light. Tends to crystallize at low temperatures.

**Isopropamide Iodide:** White to pale yellow, crystalline powder, having a bitter taste. Freely soluble in chloroform and in alcohol; sparingly soluble in water; very slightly soluble in benzene and in ether.

**Isopropyl Alcohol:** Transparent, colorless, mobile, volatile liquid, having a characteristic odor and a slightly bitter taste. Is flammable. Miscible with water, with alcohol, with ether, and with chloroform. *NF category:* Solvent.

**Azeotropic Isopropyl Alcohol:** Transparent, colorless, mobile, volatile liquid, having a characteristic odor and a slightly bitter taste. Is flammable. Miscible with water, with alcohol, with ether, and with chloroform.

**Isopropyl Myristate:** Clear, practically colorless, oily liquid. Is practically odorless, and congeals at about 5°. Freely soluble in 90% alcohol; insoluble in water, in glycerin, and in propylene glycol. Miscible with most organic solvents and with fixed oils. *NF category:* Vehicle (oleaginous).

**Isopropyl Palmitate:** Colorless, mobile liquid having a very slight odor. Soluble in acetone, in castor oil, in chloroform, in cottonseed oil, in ethyl acetate, in alcohol, and in mineral oil; insoluble in water, in glycerin, and in propylene glycol. *NF category:* Vehicle (oleaginous).

**Isopterenol Inhalation Solution:** Colorless or practically colorless, slightly acid liquid, gradually turning dark on exposure to air and light.

**Isopterenol Hydrochloride:** White to practically white, odorless, crystalline powder, having a slightly bitter taste. Gradually darkens on exposure to air and light. Its solutions become pink to brownish pink on standing exposed to air, doing so almost immediately when rendered alkaline. Its solution (1 in 100) has a pH of about 5. Freely soluble in water; sparingly soluble in alcohol and less soluble in dehydrated alcohol; insoluble in chloroform and in ether.

**Isopterenol Hydrochloride Injection:** Colorless or practically colorless liquid, gradually turning dark on exposure to air and light.

**Isopterenol Sulfate:** White to practically white, odorless, crystalline powder. It gradually darkens on exposure to air and light. Its solutions become pink to brownish pink on standing exposed to air, doing so almost immediately when rendered alkaline. A solution (1 in 100) has a pH of about 5. Freely soluble in water; very slightly soluble in alcohol, in benzene, and in ether.

**Isosorbide Concentrate:** Colorless to slightly yellow liquid. Soluble in water and in alcohol.

**Diluted Isosorbide Dinitrate:** Ivory-white, odorless powder. [NOTE—Undiluted isosorbide dinitrate occurs as white, crystalline rosettes.] Undiluted isosorbide dinitrate is very soluble in acetone; freely soluble in chloroform; sparingly soluble in alcohol; very slightly soluble in water.

**Isotretinoin:** Yellow crystals. Soluble in chloroform; sparingly soluble in alcohol, in isopropyl alcohol, and in polyethylene glycol 400; practically insoluble in water.

**Isoxsuprine Hydrochloride:** White, odorless, crystalline powder, having a bitter taste. Melts at about 200°, with decomposition. Sparingly soluble in alcohol; slightly soluble in water.

**Isradipine:** Yellow, fine crystalline powder.

**Itraconazole:** A white or almost white powder. Freely soluble in methylene chloride; sparingly soluble in tetrahy-

drofurane; very slightly soluble in alcohol; practically insoluble in water.

**Ivermectin:** White to yellowish-white, crystalline powder. Slightly hygroscopic. Freely soluble in methanol and in methylene chloride; soluble in acetone and in acetonitrile; practically insoluble in hexane and in water.

**Juniper Tar:** Dark brown, clear, thick liquid, having a tarry odor and a faintly aromatic, bitter taste. Sparingly soluble in solvent hexane; very slightly soluble in water. One volume dissolves in 9 volumes of alcohol. Dissolves in 3 volumes of ether, leaving only a slight, flocculent residue. Miscible with amyl alcohol, with chloroform, and with glacial acetic acid.

**Kanamycin Sulfate:** White, odorless, crystalline powder. Freely soluble in water; insoluble in acetone, in ethyl acetate, and in benzene.

**Kaolin:** Soft, white or yellowish-white powder or lumps. Has an earthy or clay-like taste and, when moistened with water, assumes a darker color and develops a marked clay-like odor. Insoluble in water, in cold dilute acids, and in solutions of alkali hydroxides. *NF category:* Tablet and/or capsule diluent.

**Ketamine Hydrochloride:** White, crystalline powder, having a slight, characteristic odor. Freely soluble in water and in methanol; soluble in alcohol; sparingly soluble in chloroform.

**Ketorolac Tromethamine:** White to off-white, crystalline powder. Melts between 165° and 170°, with decomposition. Freely soluble in water and in methanol; slightly soluble in alcohol, in dehydrated alcohol, and in tetrahydrofuran; practically insoluble in acetone, in dichloromethane, in toluene, in ethyl acetate, in dioxane, in hexane, in butyl alcohol, and in acetonitrile.

**Labetalol Hydrochloride:** White to off-white powder. Melts at about 180°, with decomposition. Soluble in water and in alcohol; insoluble in ether and in chloroform.

**Alpha-Lactalbumin:** Free-flowing, slightly hygroscopic light cream-colored powder. Freely soluble in water; soluble in wide pH ranges; insoluble in methanol, in alcohol, in ether, and in acetone. *NF category:* Buffering agent; bulking agent for freeze-drying; coating agent; complexing agent; emulsifying and/or solubilizing agent; stiffening agent; suspending and/or viscosity-increasing agent; tablet binder; tablet and/or capsule diluent; vehicle.

**Lactic Acid:** Colorless or yellowish, practically odorless, syrupy liquid. Is hygroscopic. When it is concentrated by boiling, lactic acid lactate is formed. Specific gravity is about 1.20. Insoluble in chloroform. Miscible with water, with alcohol, and with ether. *NF category:* Buffering agent.

**Lactitol:** A white or light brown, odorless crystal. Has a mild, sweet taste, and no aftertaste. *NF category:* Flavors and perfumes; tablet and/or capsule diluent.

**Lactobionic Acid:** White or almost white, crystalline powder with a melting point of about 125° with decomposition. Freely soluble in water; slightly soluble in glacial acetic acid, in anhydrous ethanol, and in methanol. *NF category:* Antioxidant.

**Anhydrous Lactose:** White or almost white powder. Freely soluble in water; practically insoluble in alcohol. *NF category:* Tablet and/or capsule diluent.

**Lactose Monohydrate:** White, free-flowing powder. Freely but slowly soluble in water; practically insoluble in alcohol. *NF category:* Tablet and/or capsule diluent.

**Lactulose Concentrate:** Colorless to amber syrupy liquid, which may exhibit some precipitation and darkening upon standing. Miscible with water.

**Lamivudine:** White to off-white solid. Soluble in water. Melts at about 176°.

**Lamotrigine:** A white to pale cream-colored powder. Slightly soluble in 0.1 N hydrochloric acid, in acetone, in methanol, and in water.