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DESCRIPTION AND RELATIVE SOLUBILITY

Change to read:

Description and Relative Solubility of USP and NF Articles

▲ **Starting with USP–NF 2024 Issue 1, USP will no longer publish and maintain the description and solubility information for drug substances. This information is typically included as a part of the FDA-approved labels of the products, in the “Description” section of the drug label information.**

FDA-approved labels are available at several sources, including the [DailyMed](#) searchable database (provided by the National Library of Medicines) and [Prescription Drug Labeling Resources](#) (provided by the FDA).

Additional resources could be found here:

- **How Do I use Prescription Drug Labeling, Section 11: Description** <https://www.fda.gov/about-fda/project-renewal/how-do-i-use-prescription-drug-labeling#Section-11>
- **Labeling on Drugs@FDA vs. DailyMed:** <https://www.fda.gov/media/127183/download>

All legacy description and solubility information can still be accessed in the USP–NF Online by viewing the “No Longer Official” versions of this document.▲ (USP 1-May-2024)

The “description” and “solubility” statements pertaining to an article (formerly included in the individual monograph) are general in nature. The information is provided for those who use, prepare, and dispense drugs, solely to indicate descriptive and solubility properties of an article complying with monograph standards. The properties are not in themselves standards or tests for purity even though they may indirectly assist in the preliminary evaluation of the integrity of an article.

Taste and Odor

Organoleptic characteristics are indicated in many instances because they may be useful and descriptive properties of substances. However, they are not meant to be applied as tests for identifying materials.

The inclusion of odor or taste among other descriptive properties may aid in identifying the causative agent following accidental exposure to or contact with a substance. This information is provided as a warning or to make an individual aware of sensations that may be encountered.

The use of odor or taste as a test for identification or content is strongly discouraged.

The characteristic odor of a volatile substance becomes apparent immediately on opening a container of it. The odor may be agreeable (e.g., Peppermint Oil), unpleasant (e.g., Sulfur Dioxide), or potentially hazardous on prolonged exposure (e.g., Coal Tar). Moreover, an unexpected odor may be encountered if the characteristics of a substance are not known or if a container is incorrectly labeled. Consequently, containers of such substances should be opened cautiously, preferably in a well-ventilated fume hood. A characteristic taste or sensation produced in the oral cavity likewise is apparent if traces of residue materials on fingers are inadvertently brought into contact with the tongue or adjacent mucosal tissues.

Solubility

Only where a special, quantitative solubility test is given in the individual monograph, and is designated by a test heading, is it a test for purity. The approximate solubilities of Pharmacopeial and National Formulary substances are indicated by the descriptive terms in the accompanying table. The term “miscible” as used in this Pharmacopeia pertains to a substance that yields a homogeneous mixture when mixed in any proportion with the designated solvent.

Descriptive Term	Parts of Solvent Required for 1 Part of Solute
Very soluble	Less than 1
Freely soluble	From 1 to 10
Soluble	From 10 to 30
Sparingly soluble	From 30 to 100
Slightly soluble	From 100 to 1000
Very slightly soluble	From 1000 to 10,000

Descriptive Term	Parts of Solvent Required for 1 Part of Solute
Practically insoluble, or Insoluble	10,000 and over

Soluble Pharmacopeial and National Formulary articles, when brought into solution, may show traces of physical impurities, such as minute fragments of filter paper, fibers, and other particulate matter, unless limited or excluded by definite tests or other specifications in the individual monographs.

Change to read:

Acacia: Practically odorless and produces a mucilaginous sensation on the tongue. Insoluble in alcohol. Optical rotation varies depending on the source of Acacia. For example, specific rotation values, calculated on the anhydrous basis and determined on a 1.0% (w/v) solution, usually are between -25° and -35° for *Acacia senegal* and between $+35^{\circ}$ and $+60^{\circ}$ for *Acacia seyal*. *NF category:* Emulsifying agent; suspending and/or viscosity-increasing agent; wet binder[▲]; gelling agent; release-modifying agent.▲ (NF 1-May-2024)

Acetulfame Potassium: A white, crystalline powder or colorless crystals. Soluble in water; very slightly soluble in acetone and in alcohol. *NF category:* Sweetening agent.

Change to read:

Acetic Acid: Clear, colorless liquid, having a strong, characteristic odor, and a sharply acid taste. Specific gravity is about 1.045. Miscible with water, with alcohol, and with glycerin. *NF category:*▲Acidifying or alkalizing agent; buffering agent.▲ (NF 1-May-2024)

Change to read:

Glacial Acetic Acid: Clear, colorless liquid, having a pungent, characteristic odor and, when well diluted with water, an acid taste. Boils at about 118° . Specific gravity is about 1.05. Miscible with water, with alcohol, and with glycerin. *NF category:*▲Acidifying or alkalizing agent; buffering agent.▲ (NF 1-May-2024)

Acetone: Transparent, colorless, mobile, volatile liquid, having a characteristic odor. A solution (1 in 2) is neutral to litmus. Miscible with water, with alcohol, with ether, with chloroform, and with most volatile oils. *NF category:* Solvent.

Acetylcysteine: White, crystalline powder, having a slight acetic odor. Freely soluble in water and in alcohol; practically insoluble in chloroform and in ether.

Acetyltributyl Citrate: Clear, practically colorless, oily liquid. Freely soluble in alcohol, in isopropyl alcohol, in acetone, and in toluene; insoluble in water. *NF category:* Plasticizer.

Acetyltriethyl Citrate: Clear, practically colorless, oily liquid. Freely soluble in alcohol, in isopropyl alcohol, in acetone, and in toluene; insoluble in water. *NF category:* Plasticizer.

Ademetionine Disulfate Tosylate: White powder. Freely soluble in water.

Adenine: White crystals or crystalline powder. Is odorless and tasteless. Sparingly soluble in boiling water; slightly soluble in alcohol; very slightly soluble in water; practically insoluble in ether and in chloroform.

Change to read:

Adipic Acid: A white, crystalline powder. Freely soluble in alcohol and in methanol; soluble in boiling water and in acetone; slightly soluble in water. *NF category:*▲Acidifying or alkalizing agent; buffering agent; release-modifying agent;▲ (NF 1-May-2024) flavors and fragrance.

Change to read:

Agar: Odorless or has a slight odor, and produces a mucilaginous sensation on the tongue. Soluble in boiling water; insoluble in cold water. *NF category:* Suspending and/or viscosity-increasing agent; emulsifying agent; suppository base; wet binder[▲]; gelling agent; release-modifying agent; disintegrant.▲ (NF 1-May-2024)

Delete the following:

▲**Alamic Acid:** *NF category:* Suspending and/or viscosity-increasing agent.▲ (NF 1-May-2024)

Alanine: White, odorless crystals or crystalline powder, having a slightly sweet taste. Freely soluble in water; slightly soluble in 80% alcohol; insoluble in ether.

Albumin Human: Practically odorless, moderately viscous, clear, brownish fluid.

Change to read:

Alcohol: Clear, colorless, mobile, volatile liquid. It has a characteristic odor and produces a burning sensation on the tongue. Is readily volatilized even at low temperatures, and boils at about 78° . Is flammable. Miscible with water and with practically all organic solvents. *NF category:* Solvent; antimicrobial preservative[▲]; permeation enhancer; printing ink component.▲ (NF 1-May-2024)

Dehydrated Alcohol: Clear, colorless, mobile, volatile liquid. Has a characteristic odor and produces a burning sensation on the tongue. Is readily volatilized even at low temperatures, and boils at about 78° . Is flammable. Miscible with water and with practically all organic solvents.

Diluted Alcohol: Clear, colorless, mobile liquid, having a characteristic odor and producing a burning sensation on the tongue. *NF category:* Solvent.

Change to read:

Alfadex: White or almost white, amorphous or crystalline powder. Freely soluble in water and in propylene glycol; practically insoluble in ethanol and in methylene chloride. *NF category:* Chelating▲▲ (NF 1-May-2024)

Change to read:

Alginate Acid: White to yellowish white, fibrous powder. Odorless, or practically odorless, and is tasteless. Soluble in alkaline solutions; insoluble in water and in organic solvents. *NF category:* Suspending and/or viscosity-increasing agent; wet binder; disintegrant; film-forming agent; release-modifying agent; ▲flavors and fragrance; biodegradable polymer.▲ (NF 1-May-2024)

Alkyl (C12-15) Benzoate: Clear, practically colorless, oily liquid. Soluble in acetone, in alcohol, in isopropyl alcohol, in ethyl acetate, in isopropyl myristate, in isopropyl palmitate, in lanolin, in mineral oil, in vegetable oils, and in volatile silicones; insoluble in water, in glycerin, and in propylene glycol. *NF category:* Vehicle (oleaginous); emollient.

Almond Oil: Clear, pale straw-colored or colorless, oily liquid, having a bland taste. Remains clear at -10° , and does not congeal until cooled to almost -20° . Slightly soluble in alcohol. Miscible with ether, with chloroform, with benzene, and with solvent hexane. *NF category:* Flavors and fragrance; vehicle (oleaginous); emollient; solvent.

Aloe: Has a characteristic, somewhat sour and disagreeable, odor.

Change to read:

Aluminum Monostearate: Fine, white to yellowish-white, bulky powder, having a faint, characteristic odor. Insoluble in water, in alcohol, and in ether. *NF category:* Suspending and/or viscosity-increasing agent; emollient▲; gelling agent; opacifier.▲ (NF 1-May-2024)

Aluminum Oxide: Occurs as a white or almost white, amorphous powder. It is very slightly soluble in dilute mineral acids and in solutions of alkali hydroxides. It is practically insoluble in water. *NF category:* Coloring agent.

Amino Methacrylate Copolymer: Colorless to yellowish granules or white powder. Soluble in acetone, in isopropyl alcohol, and in diluted acids; practically insoluble in water. The solutions are clear to slightly cloudy. *NF category:* Coating agent; polymer membrane; wet binder; diluent; film-forming agent.

Change to read:

Strong Ammonia Solution: Clear, colorless liquid, having an exceedingly pungent, characteristic odor. Specific gravity is about 0.90. *NF category:*▲Acidifying or alkalizing agent.▲ (NF 1-May-2024)

Ammonio Methacrylate Copolymer: Colorless, clear to white-opaque granules or a white powder, both with a faint amine-like odor. Soluble to freely soluble in methanol, in alcohol, and in isopropyl alcohol, each of which contains small amounts of water; soluble to freely soluble in acetone, in ethyl acetate, and in methylene chloride. The solutions are clear to slightly cloudy. Insoluble in petroleum ether and in water. *NF category:* Coating agent; wet binder; polymer membrane; diluent; film-forming agent.

Ammonio Methacrylate Copolymer Dispersion: Milky-white liquids of low viscosity with a faint characteristic odor. Miscible with water in any proportion, the milky-white appearance being retained. A clear or slightly cloudy solution is obtained on mixing one part with five parts of acetone, alcohol, or isopropyl alcohol. When mixed with methanol in a ratio of 1:5, Ammonio Methacrylate Copolymer Dispersion Type A dissolves completely, and Ammonio Methacrylate Copolymer Dispersion Type B dissolves only partially. *NF category:* Coating agent; polymer membrane; wet binder; diluent; film-forming agent.

Change to read:

Ammonium Carbonate: White powder, or hard, white or translucent masses, having a strong odor of ammonia, without empyreuma, and a sharp, ammoniacal taste. Its solutions are alkaline to litmus. On exposure to air, it loses ammonia and carbon dioxide, becoming opaque, and is finally converted into friable porous lumps or a white powder of ammonium bicarbonate. Freely soluble in water, but is decomposed by hot water. *NF category:*▲Acidifying or alkalizing agent.▲ (NF 1-May-2024)

Change to read:

Ammonium Chloride: Colorless crystals or white, fine or coarse, crystalline powder. Has a cool, saline taste, and is somewhat hygroscopic. Freely soluble in water and in glycerin, and even more so in boiling water; sparingly soluble in alcohol. *NF category:*▲Acidifying or alkalizing agent.▲ (NF 1-May-2024)

Change to read:

Ammonium Glycyrrhizate: White or yellowish-white, hygroscopic powder. It is slightly soluble in water; very slightly soluble in anhydrous ethanol; practically insoluble in acetone. It dissolves in dilute solutions of acids and of alkali hydroxides. *NF category:* Flavors and fragrance; ▲ (NF 1-May-2024) solubilizing agent▲; emulsifying agent; sweetening agent.▲ (NF 1-May-2024)

Change to read:

Ammonium Phosphate: Colorless or white granules or powder, having a saline taste. Freely soluble in water; practically insoluble in acetone and in alcohol. *NF category:*▲Buffering agent.▲ (NF 1-May-2024)

Change to read:

Ammonium Sulfate: Colorless or white crystals or granules that decompose at temperatures above 280° . One g is soluble in about 1.5 mL of water. It is insoluble in alcohol. The pH of a 0.1 M solution is between 4.5 and 6.0. ▲*NF Category:* Buffering agent; suspending and/or viscosity-increasing agent.▲ (NF 1-May-2024)

Amylene Hydrate: Clear, colorless liquid, having a camphoraceous odor. Its solutions are neutral to litmus. Freely soluble in water. Miscible with alcohol, with chloroform, with ether, and with glycerin. *NF category:* Solvent.

Anethole: Colorless or faintly yellow liquid at or above 23°. Has a sweet taste and the aromatic odor of anise. Is affected by light. Freely soluble in alcohol; very slightly soluble in water. Readily miscible with ether and with chloroform. *NF category:* Flavors and fragrance.

Anise Oil: Clear, colorless to light yellow in the liquid state having a powerful and characteristic licorice-like scent. Congeals between 15° and 19°. Miscible with alcohol. *NF category:* Flavors and fragrance.

Change to read:

Arginine: White, practically odorless crystals. Freely soluble in water; sparingly soluble in alcohol; insoluble in ether. ▲*NF category:* Buffering agent, protein stabilizer, viscosity-lowering agent.▲ (NF 1-May-2024)

Change to read:

Arginine Hydrochloride: White crystals or crystalline powder, practically odorless. Freely soluble in water. ▲*NF category:* Protein stabilizer.▲ (NF 1-May-2024)

Change to read:

Ascorbic Acid: White or slightly yellow crystals or powder. On exposure to light it gradually darkens. In the dry state, is reasonably stable in air, but in solution rapidly oxidizes. Melts at about 190°. Freely soluble in water; sparingly soluble in alcohol; insoluble in chloroform, in ether, and in benzene. *NF category:* Antioxidant▲; acidifying or alkalizing agent; free radical scavenger.▲ (NF 1-May-2024)

Ascorbyl Palmitate: White to yellowish white powder, having a characteristic odor. Soluble in alcohol; very slightly soluble in water and in vegetable oils. *NF category:* Antioxidant.

Change to read:

Asparagine: White crystals or a crystalline powder. Soluble in water; practically insoluble in alcohol and in ether. Its solutions are acid to litmus. It melts at about 234°. ▲*NF category:* Buffering agent; carrier; disintegrant.▲ (NF 1-May-2024)

Aspartame: White, odorless, crystalline powder, having a sweet taste. Sparingly soluble in water; slightly soluble in alcohol. Melts at about 246°. The pH of an 8 in 1000 solution is about 5. *NF category:* Sweetening agent.

Delete the following:

▲**Aspartame Acesulfame:** White, odorless, crystalline powder. Slightly soluble in water and in ethanol. *NF category:* Sweetening agent.▲ (NF 1-May-2024)

Aspartic Acid: White or almost white, crystalline powder, or colorless crystals. Soluble in dilute solutions of alkali hydroxides and in dilute mineral acids; slightly soluble in water; practically insoluble in alcohol and in ether.

Atazanavir Sulfate: White to pale-yellow, crystalline powder. Soluble in methanol and in ethyl alcohol; slightly soluble in water; practically insoluble in heptane.

Change to read:

Activated Attapulgate: Cream-colored, micronized, nonswelling powder, free from gritty particles. The high heat treatment used in its preparation causes it to yield only moderately viscous aqueous suspensions, its dispersion consisting mainly of particle groups. Insoluble in water. *NF category:* Suspending and/or viscosity-increasing agent▲; wet binder.▲ (NF 1-May-2024)

Change to read:

Colloidal Activated Attapulgate: Cream-colored, micronized, nonswelling powder, free from gritty particles. Yields viscous aqueous suspensions, as a result of dispersion into its constituent ultimate particles. Insoluble in water. *NF category:* Suspending and/or viscosity-increasing agent▲; wet binder.▲ (NF 1-May-2024)

Change to read:

Barium Hydroxide Lime: White or grayish-white granules. May have a color if an indicator has been added. *NF category:* Sorbent▲▲ (NF 1-May-2024)

Change to read:

Behenoyl Polyoxylglycerides: Waxy solid or fine powder. Soluble in methylene chloride; insoluble in alcohol; dispersible in water. *NF category:* Lubricant; emulsifying agent; ▲▲ (NF 1-May-2024) solubilizing agent.

Belladonna Leaf: When moistened, its odor is slight, somewhat tobacco-like. Its taste is somewhat bitter and acrid.

Bentonite: Very fine, odorless, pale buff or cream-colored to grayish powder, free from grit. Has a slightly earthy taste. Is hygroscopic. Insoluble in water, but swells to approximately twelve times its volume when added to water; insoluble in, and does not swell in, organic solvents. *NF category:* Suspending and/or viscosity-increasing agent.

Purified Bentonite: Odorless, tasteless, fine (micronized) powder or small flakes that are creamy when viewed on their flat surfaces and tan to brown when viewed on their edges. Insoluble in water and in alcohol. Swells when added to water or glycerin. *NF category:* Suspending and/or viscosity-increasing agent.

Benzaldehyde: Colorless, strongly refractive liquid. Is affected by light. Slightly soluble in water. Miscible with alcohol, with ether, and with fixed and volatile oils. The specific gravity is 1.041–1.046 at 25° (see [Specific Gravity \(841\)](#)), and the refractive index is 1.544–1.546 at 20° (see [Refractive Index \(831\)](#)). *NF category:* Flavors and fragrance.

Change to read:

Benzaldehyde Elixir, Compound: *NF category:* Flavored and/or sweetened ▲▲ (NF 1-May-2024) ·

Change to read:

Benzalkonium Chloride: White or yellowish-white, thick gel or gelatinous pieces. Usually has a mild, aromatic odor. Its aqueous solution has a bitter taste, foams strongly when shaken, and usually is slightly alkaline. Very soluble in water and in alcohol. Anhydrous form freely soluble in benzene, and slightly soluble in ether. *NF category:* Antimicrobial preservative; ▲▲ (NF 1-May-2024) solubilizing agent; emulsifying agent▲; surfactant; permeation enhancer.▲ (NF 1-May-2024)

Benzalkonium Chloride Solution: Clear liquid; colorless or slightly yellow unless a color has been added. Has an aromatic odor and a bitter taste. *NF category:* Antimicrobial preservative.

Change to read:

Benzethonium Chloride: White crystals, having a mild odor. Its solution (1 in 100) is slightly alkaline to litmus. Soluble in water, in alcohol, and in chloroform; slightly soluble in ether. *NF category:* Antimicrobial preservative; ▲▲ (NF 1-May-2024) solubilizing agent▲; surfactant.▲ (NF 1-May-2024)

Benzoic Acid: White crystals, scales, or needles. Has a slight odor, usually suggesting benzaldehyde or benzoin. Somewhat volatile at moderately warm temperatures. Freely volatile in steam. Freely soluble in alcohol, in chloroform, and in ether; slightly soluble in water. *NF category:* Antimicrobial preservative.

Benzyl Alcohol: Clear, colorless, oily liquid. Boils at about 206°, without decomposition. Is neutral to litmus. Freely soluble in 50% alcohol; sparingly soluble in water. Miscible with alcohol, with ether, and with chloroform. The specific gravity is between 1.042 and 1.047. *NF category:* Antimicrobial preservative; solvent.

Change to read:

Benzyl Benzoate: Clear, colorless, oily liquid having a slight aromatic odor and producing a sharp, burning sensation on the tongue. Practically insoluble in water and in glycerin. Miscible with alcohol, with ether, and with chloroform. *NF category:* Solvent; emulsifying agent; plasticizer▲; solubilizing agent; flavor and fragrance; antimicrobial preservative.▲ (NF 1-May-2024)

Beta Carotene: Red or reddish-brown to violet-brown crystals or crystalline powder. Soluble in carbon disulfide, in benzene, and in chloroform; sparingly soluble in ether, in solvent hexane, and in vegetable oils; practically insoluble in methanol and in alcohol; insoluble in water, in acids, and in alkalies.

Change to read:

Betadex: White, practically odorless, fine crystalline powder having a slightly sweet taste. Sparingly soluble in water. *NF category:*▲▲ (NF 1-May-2024) Chelating.▲▲ (NF 1-May-2024)

Change to read:

Betadex Sulfobutyl Ether Sodium: White to off-white, amorphous powder. Freely soluble in water; sparingly soluble in methanol; practically insoluble in ethanol, in *n*-hexane, in 1-butanol, in acetonitrile, in 2-propanol, and in ethyl acetate. *NF category:* Chelating;▲▲ (NF 1-May-2024) solubilizing agent▲; release-modifying agent; diluent; flavors and fragrance; suspending and/or viscosity-increasing agent.▲ (NF 1-May-2024)

Biotin: Practically white, crystalline powder. Very slightly soluble in water and in alcohol; insoluble in other common organic solvents.

Change to read:

Boric Acid: Colorless, odorless scales of a somewhat pearly luster, or crystals, or white powder that is slightly unctuous to the touch. It is stable in air. Freely soluble in glycerin, in boiling water, and in boiling alcohol; soluble in water and in alcohol. *NF category:*▲Buffering agent;▲ (NF 1-May-2024) antimicrobial preservative.

Butyl Alcohol: Clear, colorless, mobile liquid, having a characteristic, penetrating vinous odor. Soluble in water. Miscible with alcohol, with ether, and with many other organic solvents. *NF category:* Solvent.

Change to read:

Butylene Glycol: Clear, colorless, hygroscopic, viscous liquid. It is miscible with water, with acetone, and with ether in all proportions; immiscible with fixed oils. It dissolves most essential oils and synthetic flavoring substances. *NF category:* Solvent; ▲▲ (NF 1-May-2024) solubilizing agent▲; antimicrobial preservative; humectant.▲ (NF 1-May-2024)

Change to read:

Butyl Palmitostearate: Colorless or pale yellowish waxy solid at temperatures below 17°–24° or colorless or pale yellowish liquid at temperatures of 17°–24° or above. Soluble in acetone, in alcohol, in ether, in mineral oils, and in vegetable oils; practically insoluble in water and in propylene glycol. *NF category:* Emulsifying ▲▲ (NF 1-May-2024) agent; ▲▲ (NF 1-May-2024) plasticizer▲; emollient.▲ (NF 1-May-2024)

Change to read:

Butyl Stearate: Colorless or pale yellowish waxy solid at temperatures below 19°–24° or colorless or pale yellowish liquid at temperatures of 19°–24° or above. Soluble in acetone, in alcohol, in ether, in mineral oils, and in vegetable oils; practically insoluble in water and in propylene glycol. *NF category:* Emulsifying ▲▲ (NF 1-May-2024) agent; ▲▲ (NF 1-May-2024) plasticizer▲; emollient.▲ (NF 1-May-2024)

Change to read:

Butylated Hydroxyanisole: White or slightly yellow, waxy solid, having a faint, characteristic odor. Freely soluble in alcohol, in propylene glycol, in chloroform, and in ether; insoluble in water. *NF category:* Antioxidant▲; antimicrobial preservative.▲ (NF 1-May-2024)

Change to read:

Butylated Hydroxytoluene: White, crystalline solid, having a faint, characteristic odor. Freely soluble in alcohol, in chloroform, and in ether; insoluble in water and in propylene glycol. *NF category:* Antioxidant▲; stabilizer.▲ (NF 1-May-2024)

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

Change to read:

Calcium Acetate: White, odorless or almost odorless, hygroscopic, crystalline powder. When heated to above 160°, it decomposes to calcium carbonate and acetone. Freely soluble in water; slightly soluble in methanol; practically insoluble in acetone, in dehydrated alcohol, and in benzene. *NF category:* Antimicrobial preservative; ▲chelating▲ (NF 1-May-2024) agent.

Calcium Ascorbate: White to slightly yellow, practically odorless powder. Freely soluble in water (approximately 50 g per 100 mL); slightly soluble in alcohol; insoluble in ether.

Change to read:

Calcium Carbonate: Fine, white, odorless, tasteless, microcrystalline powder. It is stable in air. Practically insoluble in water. Its solubility in water is increased by the presence of any ammonium salt or of carbon dioxide. The presence of any alkali hydroxide reduces its solubility. Insoluble in alcohol. Dissolves with effervescence in 1 N acetic acid, in 3 N hydrochloric acid, and in 2 N nitric acid. *NF category:* Diluent; ▲acidifying agent or alkalizing agent; buffering agent; sugar-▲ (NF 1-May-2024) coating agent; wet binder▲; opacifier; filler.▲ (NF 1-May-2024)

Calcium Chloride: White, hard, odorless fragments or granules. Is deliquescent. Very soluble in boiling water; freely soluble in water, in alcohol, and in boiling alcohol. *NF category:* Desiccant; antimicrobial preservative.

Calcium Gluceptate: White to faintly yellow, amorphous powder. Is stable in air, but the hydrous forms may lose part of their water of hydration on standing. Freely soluble in water; insoluble in alcohol and in many other organic solvents.

Calcium Gluconate: White, crystalline, odorless, tasteless granules or powder. Is stable in air. Its solutions are neutral to litmus. Freely soluble in boiling water; sparingly (and slowly) soluble in water; insoluble in alcohol.

Change to read:

Calcium Hydroxide: White powder. It has an alkaline, slightly bitter taste. Soluble in glycerin and in syrup; slightly soluble in water; very slightly soluble in boiling water; insoluble in alcohol. *NF category:*▲Acidifying agent or alkalizing agent.▲ (NF 1-May-2024)

Change to read:

Calcium Lactate: White, practically odorless granules or powder. The pentahydrate is somewhat efflorescent and at 120° becomes anhydrous. The pentahydrate is soluble in water; practically insoluble in alcohol. *NF category:*▲Buffering agent;▲ (NF 1-May-2024) antimicrobial preservative; wet binder▲; diluent; suspending and/or viscosity-increasing agent.▲ (NF 1-May-2024)

Calcium Levulinate: White, crystalline or amorphous, powder, having a faint odor suggestive of burnt sugar. Has a bitter, salty taste. Freely soluble in water; slightly soluble in alcohol; insoluble in ether and in chloroform.

Calcium Pantothenate: Slightly hygroscopic, white powder. Is odorless and has a bitter taste. Freely soluble in water; soluble in glycerin; practically insoluble in alcohol, in chloroform, and in ether.

Racemic Calcium Pantothenate: White, slightly hygroscopic powder, having a faint, characteristic odor, and a bitter taste. Is stable in air. Its solutions are neutral or alkaline to litmus. Is optically inactive. Freely soluble in water; soluble in glycerin; practically insoluble in alcohol, in chloroform, and in ether.

Change to read:

Dibasic Calcium Phosphate: White, odorless, tasteless powder. It is stable in air. Soluble in 3 N hydrochloric acid and in 2 N nitric acid; practically insoluble in water; insoluble in alcohol. *NF category:* Diluent▲; filler; dry binder.▲ (NF 1-May-2024)

Change to read:

Tribasic Calcium Phosphate: White, odorless, tasteless powder. It is stable in air. Freely soluble in 3 N hydrochloric acid and in 2 N nitric acid; practically insoluble in water; insoluble in alcohol. *NF category:* Diluent; ▲ (NF 1-May-2024) glidant and/or anticaking agent▲; filler; dry binder.▲ (NF 1-May-2024)

Calcium Propionate: Occurs as a white crystalline solid. One g dissolves in about 3 mL of water. *NF category:* Antimicrobial preservative.

Calcium Saccharate: White, odorless, tasteless, crystalline powder. Soluble in dilute mineral acids and in solutions of calcium gluconate; slightly soluble in boiling water; very slightly soluble in alcohol, and in cold water; practically insoluble in ether and in chloroform.

Change to read:

Calcium Silicate: White to off-white, free-flowing powder that remains so after absorbing relatively large amounts of water or other liquids. Insoluble in water. Forms a gel with mineral acids. *NF category:* Glidant and/or anticaking agent▲; diluent; opacifier.▲ (NF 1-May-2024)

Calcium Stearate: Fine, white to yellowish-white, bulky powder having a slight, characteristic odor. Is unctuous, and is free from grittiness. Insoluble in water, in alcohol, and in ether. *NF category:* Lubricant.

Change to read:

Calcium Sulfate: Fine, white to slightly yellow-white, odorless powder. Soluble in 3 N hydrochloric acid; slightly soluble in water. *NF category:* Desiccant; diluent[▲]; dry binder; filler; sugar-coating agent.▲ (NF 1-May-2024)

Candelilla Wax: A hard, yellowish-brown-opaque to translucent wax. Its specific gravity is about 0.983. Soluble in chloroform and in toluene; insoluble in water. *NF category:* Coating agent; colloid stabilizing agent; emollient; emulsifying agent; film-forming agent; ointment base; stiffening agent; vehicle.

Change to read:

Canola Oil: Clear, pale yellow, slightly viscous liquid. Practically insoluble in water and in alcohol. Miscible with light petroleum (bp: 40° to 60°). *NF category:* Solvent; emollient; vehicle (oleaginous)[▲]; lubricant.▲ (NF 1-May-2024)

Caprylic Acid: Clear, colorless or slightly yellowish, oily liquid. Very soluble in acetone and in alcohol; very slightly soluble in water. It dissolves in dilute solutions of alkali hydroxides. *NF category:* Emulsifying agent.

Change to read:

Caprylocaproyl Polyoxylglycerides: Pale yellow, oily liquids. Dispersible in hot water; freely soluble in methylene chloride. *NF category:* Ointment base; solvent; ▲ (NF 1-May-2024) solubilizing agent; emulsifying agent.

Capsaicin: Off-white powder. Melts at about 65°. Soluble in alcohol, in benzene, in chloroform; slightly soluble in carbon disulfide; practically insoluble in cold water.

Capsicum Oleoresin: Dark red, oily liquid. Soluble in alcohol, in acetone, in ether, in chloroform, and in volatile oils; soluble with opalescence in fixed oils.

Caramel: Thick, dark brown liquid having the characteristic odor of burnt sugar, and a pleasant, bitter taste. One part dissolved in 1000 parts of water yields a clear solution having a distinct yellowish-orange color. The color of this solution is not changed and no precipitate is formed after exposure to sunlight for 6 hours. When spread in a thin layer on a glass plate, it appears homogeneous, reddish-brown, and transparent. Miscible with water. Soluble in dilute alcohol up to 55% (v/v). Immiscible with ether, with chloroform, with acetone, with benzene, and with solvent hexane. *NF category:* Coloring agent.

Delete the following:

▲ **Carbomer 910:** White, fluffy powder, having a slight, characteristic odor. Is hygroscopic. The pH of a 1 in 100 dispersion is about 3. When neutralized with alkali hydroxides or with amines, it dissolves in water, in alcohol, and in glycerin. *NF category:* Suspending and/or viscosity-increasing agent.▲ (NF 1-May-2024)

Change to read:

Carbomer 934: ▲ White, fluffy powder, having a slight, characteristic odor. It is hygroscopic. The pH of a 1 in 100 dispersion is about 3. When neutralized with alkali hydroxides or with amines, it dissolves in water, in alcohol, and in glycerin. *NF category:* Suspending and/or viscosity-increasing agent; gelling agent.▲ (NF 1-May-2024)

Change to read:

Carbomer 934P: See Carbomer ▲934.▲ (NF 1-May-2024)

Change to read:

Carbomer 940: See Carbomer ▲934.▲ (NF 1-May-2024)

Change to read:

Carbomer 941: See Carbomer ▲934.▲ (NF 1-May-2024)

Change to read:

Carbomer 1342: See Carbomer ▲934.▲ (NF 1-May-2024)

Change to read:

Carbomer Copolymer: White, hygroscopic powder. It swells in water when a dispersion of it is neutralized with sodium hydroxide to a pH within the range of 7.3 to 7.8. *NF category:* Emulsifying agent; suspending and/or viscosity-increasing agent; wet binder; polymers for ophthalmic use; release-modifying agent[▲]; gelling agent.▲ (NF 1-May-2024)

Change to read:

Carbomer Homopolymer: White, fluffy hygroscopic powder, having a slight, characteristic odor. The pH of a 1 in 100 dispersion in water is about 3. When neutralized with alkali hydroxides or with amines, it swells giving the appearance of dissolving in water; when neutralized with lower amines and alkanolamines, it swells giving the appearance of dissolving in methanol or glycerin; when neutralized with ethoxylated long-chain (C₁₄–C₁₈) amines, it swells giving the appearance of dissolving in ethanol. *NF category:* Wet binder; suspending and/or viscosity-increasing agent; emulsifying agent; polymers for ophthalmic use; release-modifying agent[▲]; gelling agent.▲ (NF 1-May-2024)

Change to read:

Carbomer Interpolymer: White, hygroscopic powder. It swells in water when a dispersion of it is neutralized with sodium hydroxide to a pH within the

range of 5.5 to 9. *NF category*: Emulsifying agent; suspending and/or viscosity increasing agent; wet binder; polymers for ophthalmic use; release-modifying agent▲; gelling agent.▲ (NF 1-May-2024)

Change to read:

Carbon Dioxide: Odorless, colorless gas. Its solutions are acid to litmus. One L at 0° and at a pressure of 760 mm of mercury weighs 1.977 g. One volume dissolves in about 1 volume of water. *NF category*: Air displacement; propellant▲; solvent.▲ (NF 1-May-2024)

Change to read:

Carboxymethylcellulose Calcium: White to yellowish-white powder. It is hygroscopic. Practically insoluble in alcohol, in acetone, in ether, in chloroform, and in benzene. It swells with water to form a suspension; the pH of the suspension, obtained by shaking 1 g with 100 mL of water, is between 4.5 and 6.0. *NF category*: Suspending and/or viscosity-increasing agent; coating agent; emulsifying agent; film-forming agent; disintegrant▲; wet binder; physical form stabilizer.▲ (NF 1-May-2024)

Change to read:

Carboxymethylcellulose Sodium: White to cream-colored powder or granules. The powder is hygroscopic. It is easily dispersed in water to form colloidal solutions. Insoluble in alcohol, in ether, and in most other organic solvents. *NF category*: Coating agent; suspending and/or viscosity-increasing agent; wet binder; film-forming agent; release-modifying agent; disintegrant▲; emulsifying agent; physical form stabilizer.▲ (NF 1-May-2024)

Carboxymethylcellulose Sodium 12: Colorless or white to off-white powder or granules. Is odorless. Water solubility depends on degree of substitution (easily dispersed in water at all temperatures, forming a clear, colloidal solution). Insoluble in acetone, in alcohol, in ether, and in toluene. *NF category*: Suspending and/or viscosity-increasing agent.

Enzymatically-Hydrolyzed Carboxymethylcellulose Sodium: White or slightly yellowish or grayish, odorless, slightly hygroscopic granular or fibrous powder. Soluble in water; insoluble in alcohol. *NF category*: Coating agent; suspending and/or viscosity-increasing agent; film-forming agent.

Low-Substituted Carboxymethylcellulose Sodium: A white or almost white powder or short fibers. Practically insoluble in acetone, in alcohol, and in toluene. It swells in water to form a gel.

Carmellose: White powder. Practically insoluble in ethanol (99.5%). Swells with water to form a suspension. Becomes viscous in sodium hydroxide TS. Is hygroscopic. *NF category*: Suspending and/or viscosity-increasing agent; polymers for ophthalmic use.

Change to read:

Carrageenan: Yellowish or tan to white, coarse to fine powder. It is practically odorless and has a mucilaginous taste. Soluble in water at a temperature of about 80°, forming a viscous, clear or slightly opalescent solution that flows readily. Disperses in water more readily if first moistened with alcohol, with glycerin, or with a saturated solution of sucrose in water. *NF category*: Suspending and/or viscosity-increasing agent; release-modifying agent▲; gelling agent; capsule shell.▲ (NF 1-May-2024)

Casanthranol: Light tan to brown, amorphous, hygroscopic powder. Freely soluble in water, with some residue; partially soluble in methanol and in hot isopropyl alcohol; practically insoluble in acetone.

Cascara Sagrada: Has a distinct odor and a bitter and slightly acid taste.

Change to read:

Castor Oil: Pale yellowish or almost colorless, transparent, viscid liquid. It has a faint, mild odor; is free from foreign and rancid odor; and has a bland, characteristic taste. Soluble in alcohol. Miscible with dehydrated alcohol, with glacial acetic acid, with chloroform, and with ether. *NF category*: Plasticizer; emollient; solvent; vehicle▲, (oleaginous).▲ (NF 1-May-2024)

Change to read:

Hydrogenated Castor Oil: White, crystalline wax. ▲Freely soluble in water, in saline TS, and in dextrose solutions; very slightly soluble in alcohol; practically insoluble in chloroform and in ether.▲ (NF 1-May-2024) Insoluble in water and in most common organic solvents. *NF category*: Stiffening agent; lubricant▲; film-forming agent; release-modifying agent.▲ (NF 1-May-2024)

Cellaburate: Fine white or almost white powder or granules. Available in a range of viscosities, acetyl and butyl contents. Slightly hygroscopic; soluble in acetone, in methylene chloride, in pyridine, and in dimethyl sulfoxide; practically insoluble in water and in alcohol. *NF category*: Coating agent; polymer membrane; film-forming agent; release-modifying agent; diluent.

Cellacefate: Free-flowing, white powder. May have a slight odor of acetic acid. Soluble in acetone and in dioxane; insoluble in water and in alcohol. *NF category*: Coating agent; film-forming agent.

Change to read:

Cellulose Acetate: Fine, white powder or free-flowing pellets. Available in a range of viscosities and acetyl contents. High viscosity, which reflects high molecular weight, decreases solubility slightly. High acetyl content cellulose acetates generally have more limited solubility in commonly used organic solvents than low acetyl content cellulose acetates, but are more soluble in methylene chloride. All acetyl content cellulose acetates are soluble in dioxane and in dimethylformamide; insoluble in alcohol and in water. *NF category*: Coating agent; polymer membrane; film-forming agent; diluent▲; release-modifying agent.▲ (NF 1-May-2024)

Change to read:

Microcrystalline Cellulose: Fine, white or almost white powder. It consists of free-flowing, nonfibrous particles. Practically insoluble in sodium

hydroxide solution (1 in 20); insoluble in water, in dilute acids, and in most organic solvents. *NF category*: Diluent; disintegrant; wet binder; suspending and/or viscosity-increasing agent▲; dry binder; filler.▲ (NF 1-May-2024)

Change to read:

Silicified Microcrystalline Cellulose: White or almost white, very fine to moderately fine powder. It is a free-flowing material that may be compacted into self-binding tablets that disintegrate rapidly in water. Slightly soluble in sodium hydroxide solution (1 in 20); practically insoluble in water, in acetone, in ethanol, in toluene, and in diluted acid. *NF category*: Diluent; disintegrant; wet binder▲; dry binder; filler.▲ (NF 1-May-2024)

Microcrystalline Cellulose and Carboxymethylcellulose Sodium: Tasteless, odorless, white to off-white, coarse to fine powder. Swells in water, producing, when dispersed, a white, opaque dispersion or gel. Insoluble in organic solvents and in dilute acids. *NF category*: Suspending and/or viscosity-increasing agent.

Oxidized Cellulose: In the form of gauze or lint. Is slightly off-white in color, is acidic to the taste, and has a slight, charred odor. Soluble in dilute alkalis; insoluble in water and in acids.

Oxidized Regenerated Cellulose: A knit fabric, usually in the form of sterile strips. Slightly off-white, having a slight odor. Soluble in dilute alkalis; insoluble in water and in dilute acids.

Change to read:

Powdered Cellulose: White or almost white powder. Exhibits degrees of fineness ranging from a free-flowing dense powder to a coarse, fluffy, nonflowing material. Slightly soluble in sodium hydroxide solution (1 in 20); insoluble in water, in dilute acids, and in nearly all organic solvents. *NF category*: Filtering aid; sorbent; diluent; disintegrant; glidant and/or anticaking agent; suspending and/or viscosity-increasing agent▲; filler; physical form stabilizer.▲ (NF 1-May-2024)

Cetostearyl Alcohol: Unctuous, white flakes or granules, having a faint, characteristic odor, and a bland, mild taste. Soluble in alcohol and in ether; insoluble in water. *NF category*: Stiffening agent; emollient; emulsifying agent; suspending and/or viscosity-increasing agent.

Change to read:

Cetrimonium Bromide: A white to creamy white, voluminous, free-flowing powder, with a characteristic faint odor and bitter, soapy taste. Freely soluble in water and in alcohol; practically insoluble in ether. *NF category*: Antimicrobial preservative▲; surfactant.▲ (NF 1-May-2024)

Change to read:

Cetyl Alcohol: Unctuous, white flakes, granules, cubes, or castings. It has a faint characteristic odor and a bland, mild taste. Usually melts in the range between 45° and 50°. Soluble in alcohol and in ether, the solubility increasing with an increase in temperature; insoluble in water. *NF category*: Stiffening agent; coating agent; emulsifying agent▲; emollient.▲ (NF 1-May-2024)

Cetyl Esters Wax: White to off-white, somewhat translucent flakes, having a crystalline structure and a pearly luster when caked. Has a faint odor and a bland, mild taste, free from rancidity, and has a specific gravity of about 0.83 at 50°. Soluble in boiling alcohol, in ether, in chloroform, and in fixed and volatile oils; slightly soluble in cold solvent hexane; practically insoluble in cold alcohol; insoluble in water. *NF category*: Stiffening agent; emollient.

Change to read:

Cetyl Palmitate: White crystals or flakes. Freely soluble in alcohol and in ether; practically insoluble in water. *NF category*: Stiffening agent▲; emollient; emulsifying agent; suspending and/or viscosity-increasing agent.▲ (NF 1-May-2024)

Change to read:

Cetylpyridinium Chloride: White to almost-white powder, having a slight, characteristic odor. Very soluble in water, in alcohol, and in chloroform; slightly soluble in benzene and in ether. *NF category*: Antimicrobial preservative; wetting and/or solubilizing agent; emulsifying agent▲; surfactant; permeation enhancer.▲ (NF 1-May-2024)

Activated Charcoal: Fine, black, odorless, tasteless powder, free from gritty matter. *NF category*: Sorbent.

Change to read:

Chitosan: White or almost white powder or granules. Soluble in aqueous solutions of glycolic acid, of formic acid, of acetic acid, of hydrochloric acid, and of lactic acid; practically insoluble in organic solvents and in water. *NF category*: Coating agent; film-forming agent; suspending and/or viscosity-increasing agent; vehicle (solid carrier)▲; wet binder; disintegrant; biodegradable polymer; muco-adhesive.▲ (NF 1-May-2024)

Chlorobutanol: Colorless to white crystals, having a characteristic, somewhat camphoraceous, odor and taste. Anhydrous form melts at about 95°, and hydrous form melts at about 76°. Freely soluble in alcohol, in ether, in chloroform, and in volatile oils; soluble in glycerin; slightly soluble in water. *NF category*: Antimicrobial preservative; plasticizer.

Chlorocresol: Colorless or practically colorless crystals or crystalline powder, having a characteristic, nontarry odor. Is volatile in steam. Very soluble in alcohol; soluble in ether, in terpenes, in fixed oils, and in solutions of alkali hydroxides; slightly soluble in water and more soluble in hot water. *NF category*: Antimicrobial preservative.

Cholecalciferol: White, odorless crystals. Is affected by air and by light. Melts at about 85°. Soluble in alcohol, in chloroform, and in fatty oils; insoluble in water.

Change to read:

Cholesterol: White or faintly yellow, practically odorless, pearly leaflets, needles, powder, or granules. Acquires a yellow color on prolonged exposure to light. Soluble in acetone, in chloroform, in dioxane, in ether, in ethyl acetate, in solvents, and in vegetable oils;

sparingly soluble in dehydrated alcohol; slightly (and slowly) soluble in alcohol; insoluble in water. *NF category*: Emulsifying agent; emollient▲; liposome-forming agent.▲ (NF 1-May-2024)

Choline Bitartrate: White, hygroscopic, crystalline powder. Clear, colorless liquid in solution. Melts between 148° and 153°. Is odorless, or may have a faint trimethylamine odor. Freely soluble in water; slightly soluble in alcohol; insoluble in ether and in chloroform.

Choline Chloride: Colorless or white crystals or crystalline powder, usually having a slight odor of trimethylamine. Clear and colorless in solution. Hygroscopic. Soluble in alcohol and in water.

Change to read:

Anhydrous Citric Acid: Colorless, translucent crystals, or white, granular to fine, crystalline powder. Melts at about 153°, with decomposition. Very soluble in water; freely soluble in alcohol; very slightly soluble in ether. *NF category*:▲Acidifying agent or alkalizing agent; buffering agent.▲ (NF 1-May-2024)

Change to read:

Citric Acid Monohydrate: Colorless, translucent crystals, or white, granular to fine, crystalline powder. Efflorescent in dry air. Very soluble in water; freely soluble in alcohol; very slightly soluble in ether. *NF category*:▲Acidifying agent or alkalizing agent;▲ (NF 1-May-2024) buffering agent; antioxidant; chelating ▲▲ (NF 1-May-2024) .

Cocaine: Colorless to white crystals or white, crystalline powder. Is levorotatory in 3 N hydrochloric acid solution. Its saturated solution is alkaline to litmus. Very soluble in warm alcohol; freely soluble in alcohol, in chloroform, and in ether; soluble in olive oil; sparingly soluble in mineral oil; slightly soluble in water.

Cocaine Hydrochloride: Colorless crystals or white, crystalline powder. Very soluble in water; freely soluble in alcohol; soluble in chloroform and in glycerin; insoluble in ether.

Cocoa Butter: Yellowish-white solid, having a faint, agreeable odor, and a bland, chocolate-like taste if the cocoa butter is obtained by pressing. If obtained by extraction, the taste is bland. Is usually brittle at temperatures below 25°. Freely soluble in ether and in chloroform; soluble in boiling dehydrated alcohol; slightly soluble in alcohol. *NF category*: Suppository base.

Coconut Oil: Clear, white to light yellow-tan, viscous liquid. Freely soluble in methylene chloride and in light petroleum (bp: 65° to 70°); very slightly soluble in alcohol; practically insoluble in water. *NF category*: Coating agent; emulsifying agent; emollient; ointment base.

Hydrogenated Coconut Oil: White to yellowish, fatty solid to semi-solid. Freely soluble in ether; very slightly soluble in alcohol; practically insoluble in water. *NF category*: Coating agent; lubricant; wet binder.

Cod Liver Oil: Thin, oily liquid, having a characteristic, slightly fishy but not rancid odor, and a fishy taste. Freely soluble in ether, in chloroform, in carbon disulfide, and in ethyl acetate; slightly soluble in alcohol.

Colchicine: Pale yellow to pale greenish-yellow, amorphous scales, or powder or crystalline powder. Is odorless or nearly so, and darkens on exposure to light. Freely soluble in alcohol and in chloroform; soluble in water; slightly soluble in ether.

Change to read:

Copovidone: White to yellowish-white powder or flakes. It is hygroscopic. Freely soluble in water, in alcohol, and in methylene chloride; practically insoluble in ether. *NF category*: Wet binder; coating agent; film-forming agent▲; release-modifying agent; crystallization inhibitor; physical form stabilizer.▲ (NF 1-May-2024)

Corn Oil: Clear, light yellow, oily liquid, having a faint, characteristic odor and taste. Slightly soluble in alcohol. Miscible with ether, with chloroform, with benzene, and with solvent hexane. [Specific Gravity \(841\)](#): Between 0.914 and 0.921. *NF category*: Solvent; vehicle (oleaginous).

Corn Syrup: Clear, white to light yellow, viscous liquid. Is miscible in all proportions with water. *NF category*: Suspending and/or viscosity-increasing agent; sweetening agent; diluent; wet binder; tonicity agent.

Change to read:

Corn Syrup Solids: Sweet, white to light yellow powder or granules. Soluble in water. *NF category*:▲▲ (NF 1-May-2024) Vehicle (flavored and/or sweetened and solid carrier); humectant; suspending and/or viscosity-increasing agent; sweetening agent; diluent; wet binder; tonicity agent▲; sugar-coating agent.▲ (NF 1-May-2024)

Cottonseed Oil: Pale yellow, oily liquid. Is odorless or nearly so, and has a bland taste. At temperatures below 10° particles of solid fat may separate from the Oil, and at about 0° to -5° the Oil becomes a solid or nearly so. [Specific Gravity \(841\)](#): Between 0.915 and 0.921. Slightly soluble in alcohol. Miscible with ether, with chloroform, with solvent hexane, and with carbon disulfide. *NF category*: Solvent; vehicle (oleaginous).

Hydrogenated Cottonseed Oil: A white mass or powder that melts to a clear, pale yellow liquid when heated. Freely soluble in methylene chloride and in toluene; very slightly soluble in alcohol; practically insoluble in water.

Creatinine: White crystals or crystalline powder; odorless. Soluble in water; slightly soluble in alcohol; practically insoluble in acetone, in ether, and in chloroform. *NF category*: Bulking agent.

Cresol: Colorless, or yellowish to brownish-yellow, or pinkish, highly refractive liquid, becoming darker with age and on exposure to light. Has a phenol-like, sometimes empyreumatic odor. A saturated solution of it is neutral or only slightly acid to litmus. Sparingly soluble in water; usually

forming a cloudy solution; dissolves in solutions of fixed alkali hydroxides. Miscible with alcohol, with ether, and with glycerin. *NF category:* Antimicrobial preservative.

Croscarmellose Sodium: White, free-flowing powder. Partially soluble in water; insoluble in alcohol, in ether, and in other organic solvents. *NF category:* Disintegrant.

Change to read:

Crospovidone: White to creamy-white, hygroscopic powder, having a faint odor. Insoluble in water and in ordinary organic solvents. *NF category:* Disintegrant[▲]; physical form stabilizer. [▲] (NF 1-May-2024)

Cyanocobalamin: Dark red crystals or amorphous or crystalline red powder. In the anhydrous form, it is very hygroscopic and when exposed to air it may absorb about 12% of water. Soluble in alcohol; sparingly soluble in water; insoluble in acetone, in chloroform, and in ether.

Dactinomycin: Bright red, crystalline powder. Is somewhat hygroscopic and is affected by light and by heat. Freely soluble in alcohol; soluble in water at 10° and slightly soluble in water at 37°; very slightly soluble in ether.

Dapagliflozin Propanediol: White to off-white powder which may contain lumps. Freely soluble in methanol, in tetrahydrofuran, in ethanol, and in acetone; soluble in acetonitrile; slightly soluble in water.

Dehydroacetic Acid: White or nearly white, crystalline powder. Soluble in aqueous solutions of alkalies; very slightly soluble in water. One g of sample dissolves in about 35 mL of alcohol and in 5 mL of acetone. *NF category:* Antimicrobial preservative.

Dehydrocholic Acid: White, fluffy, odorless powder, having a bitter taste. Soluble in glacial acetic acid and in solutions of alkali hydroxides and carbonates; sparingly soluble in chloroform (the solutions in alcohol and in chloroform usually are slightly turbid); slightly soluble in alcohol and in ether; practically insoluble in water.

Demeclocycline: Yellow, crystalline, odorless powder, having a bitter taste. Soluble in alcohol; sparingly soluble in water. Dissolves readily in 3 N hydrochloric acid and in alkaline solutions.

Denatonium Benzoate: Very soluble in chloroform and in methanol; freely soluble in water and in alcohol; very slightly soluble in ether. *NF category:* Alcohol denaturant; flavors and fragrance.

Deoxycholic Acid: Occurs as a white, crystalline powder. Freely soluble in alcohol; soluble in acetone and in solutions of alkali hydroxides and carbonates; slightly soluble in chloroform and in ether; practically insoluble in water. *NF category:* Emulsifying agent.

Dexpantenol: Clear, viscous, somewhat hygroscopic liquid, having a slight, characteristic odor. Some crystallization may occur on standing. Freely soluble in water, in alcohol, in methanol, and in propylene glycol; soluble in chloroform and in ether; slightly soluble in glycerin.

Change to read:

Dextran 1: A white to off-white powder. It is hygroscopic. Very soluble in water; sparingly soluble in alcohol. [▲]*NF category:* Colloid stabilizing agent. [▲] (NF 1-May-2024)

Change to read:

Dextrates: Free-flowing, porous, white, odorless, spherical granules consisting of aggregates of microcrystals, having a sweet taste and producing a cooling sensation in the mouth. It may be compressed directly into self-binding tablets. Freely soluble in water (heating increases its solubility in water); soluble in dilute acids and alkalies and in basic organic solvents such as pyridine; insoluble in the common organic solvents. *NF category:* Sweetening agent; diluent; wet binder[▲]; dry binder; filler. [▲] (NF 1-May-2024)

Dextrin: Free-flowing, white, yellow, or brown powder. Its solubility in water varies; it is usually very soluble, but often contains an insoluble portion. *NF category:* Suspending and/or viscosity-increasing agent; diluent; wet binder; film-forming agent; stiffening agent.

Change to read:

Dextrose: Colorless crystals or white, crystalline or granular powder. It is odorless, and has a sweet taste. Very soluble in boiling water; freely soluble in water; soluble in boiling alcohol; slightly soluble in alcohol. *NF category:* Sweetening agent; tonicity agent; vehicle (flavored and/or sweetened); diluent[▲]; wet binder. [▲] (NF 1-May-2024)

Dextrose Excipient: Colorless crystals or white, crystalline or granular powder. Is odorless and sweet-tasting. Very soluble in boiling water; freely soluble in water; sparingly soluble in boiling alcohol; slightly soluble in alcohol. *NF category:* Sweetening agent; diluent.

Diacylated Monoglycerides: Clear liquid. Very soluble in 80% (w/w) aqueous alcohol, in vegetable oils, and in mineral oils; sparingly soluble in 70% alcohol. *NF category:* Plasticizer.

Diatrizoic Acid: White, odorless powder. Soluble in dimethylformamide and in alkali hydroxide solutions; very slightly soluble in water and in alcohol.

Change to read:

Dibutyl Phthalate: A clear, oily liquid, colorless or very slightly yellow. Practically insoluble in water. Miscible with alcohol and with ether. *NF category:* Film-forming agent; solvent[▲]; plasticizer. [▲] (NF 1-May-2024)

Dibutyl Sebacate: Colorless, oily liquid of very mild odor. Soluble in alcohol, in isopropyl alcohol, and in mineral oil; very slightly soluble in propylene glycol; practically insoluble in water and in glycerin. *NF category:* Plasticizer.

Change to read:

Diethanolamine: White or clear, colorless crystals, deliquescent in moist air; or colorless liquid. Miscible with water, with alcohol, with acetone, with

chloroform, and with glycerin. Slightly soluble to insoluble in benzene, in ether, and in petroleum ether. *NF category*:▲Acidifying or alkalizing agent;▲ (NF 1-May-2024) emulsifying agent▲▲ (NF 1-May-2024) .

Change to read:

Diethylene Glycol Monoethyl Ether: Clear, colorless liquid. It is hygroscopic. Miscible with water, with acetone, and with alcohol; partially miscible with vegetable oils; immiscible with mineral oils. Specific gravity about 0.991. *NF category*: Ointment base; solvent; emulsifying agent▲; solubilizing agent.▲ (NF 1-May-2024)

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

Diethyl Phthalate: Colorless, practically odorless, oily liquid. Insoluble in water. Miscible with alcohol, with ether, and with other usual organic solvents. *NF category*: Plasticizer; film-forming agent; solvent.

Diethyl Sebacate: A colorless to slightly yellow liquid. Miscible with alcohol, with ether, with other organic solvents, and with most fixed oils; insoluble or practically insoluble in water. *NF category*: Flavors and fragrance.

Digitoxin: White or pale buff, odorless, microcrystalline powder. Sparingly soluble in chloroform; slightly soluble in alcohol; very slightly soluble in ether; practically insoluble in water.

Digoxin: Clear to white, odorless crystals or white, odorless crystalline powder. Freely soluble in pyridine; slightly soluble in diluted alcohol and in chloroform; practically insoluble in water and in ether.

Change to read:

Dimethicone: A clear, colorless, and odorless liquid. Soluble in chlorinated hydrocarbons, in benzene, in toluene, in xylene, in *n*-hexane, in petroleum spirits, in ether, and in amyl acetate; very slightly soluble in isopropyl alcohol; insoluble in water, in methanol, in alcohol, and in acetone. *NF category*: Antifoaming ▲or defoaming▲ (NF 1-May-2024) agent; water-repelling agent; adhesive ▲(pressure sensitive);▲ (NF 1-May-2024) emollient.

Change to read:

Dimethyl Sulfoxide: Clear, colorless, odorless, hygroscopic liquid. Melts at about 18.4°. Boils at about 189°. Soluble in water; practically insoluble in acetone, in alcohol, in benzene, in chloroform, and in ether. *NF category*: Solvent▲; permeation enhancer.▲ (NF 1-May-2024)

Change to read:

Docusate Sodium: White, wax-like, plastic solid, having a characteristic odor suggestive of octyl alcohol, but no odor of other solvents. Very soluble in solvent hexane; freely soluble in alcohol and in glycerin; sparingly soluble in water. *NF category*:▲▲ (NF 1-May-2024) Solubilizing agent▲; surfactant.▲ (NF 1-May-2024)

Change to read:

Edetate Calcium Disodium: White, crystalline granules or white, crystalline powder. Odorless, slightly hygroscopic, and has a faint, saline taste. Is stable in air. Freely soluble in water. *NF category*: Chelating▲▲ (NF 1-May-2024) .

Change to read:

Edetate Disodium: White, crystalline powder. Soluble in water. *NF category*: Chelating ▲▲ (NF 1-May-2024) ; transfer ligand▲; stabilizer.▲ (NF 1-May-2024)

Change to read:

Eddetic Acid: White, crystalline powder. Melts above 220°, with decomposition. Soluble in solutions of alkali hydroxides; very slightly soluble in water. *NF category*: Chelating▲; antimicrobial preservative.▲ (NF 1-May-2024)

Emtricitabine: White to almost white crystalline powder. Freely soluble in methanol and in water; practically insoluble in dichloromethane.

Ergocalciferol: White, odorless crystals. Is affected by air and by light. Soluble in alcohol, in chloroform, in ether, and in fatty oils; insoluble in water.

Ergocalciferol Oral Solution: Clear liquid having the characteristics of the solvent used in preparing the Solution.

Erythorbic Acid: White or slightly yellow crystals or powder. It gradually darkens when exposed to light. In the dry state, it is reasonably stable in air, but in solution, it rapidly deteriorates in the presence of air. It melts between 164° and 171° with decomposition. One g is soluble in about 2.5 mL of water and in about 20 mL of alcohol. Slightly soluble in glycerin. *NF category*: Antimicrobial preservative; antioxidant.

Change to read:

Erythritol: White or almost white, crystalline powder or free-flowing granules. It is stable to heat and is nonhygroscopic. Freely soluble in water; very slightly soluble in alcohol. *NF category*: Humectant; sweetening agent; diluent▲; flavors and fragrance.▲ (NF 1-May-2024)

Change to read:

Ethyl Acetate: Transparent, colorless liquid, having a fragrant, refreshing, slightly acetous odor, and a peculiar, acetous, burning taste. Soluble in water. Miscible with alcohol, with ether, with fixed oils, and with volatile oils. *NF category*: Flavors and fragrance; solvent▲; alcohol denaturant.▲ (NF 1-May-2024)

Ethyl Acrylate and Methyl Methacrylate Copolymer Dispersion: Milky-white liquid of low viscosity with a faint, characteristic odor. It is miscible with water in any proportion; the milky-white appearance is retained. A clear or slightly opalescent, viscous solution is obtained on mixing one part with five parts of acetone, alcohol, or isopropyl alcohol; the polymer substance first precipitates, but then dissolves in the excess organic solvent. When