2000

USP 24
NF 19

THE UNITED STATES PHARMACOPEIA

THE NATIONAL FORMULARY

By authority of the United States Pharmacopeial Convention, Inc., meeting at Washington, D.C., March 9–12, 1995. Prepared by the Committee of Revision and published by the Board of Trustees

Official from January 1, 2000

Vol. 3

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12601 Twinbrook Parkway, Rockville, MD 20852

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ISSN 0195-7996
ISBN 1-889788-03-1

Printed by National Publishing, Philadelphia, PA

General Chapters

General Tests and Assays

General Requirements for Tests and Assays

⟨1⟩ INJECTIONS

INTRODUCTION

Parenteral articles are preparations intended for injection through the skin or other external boundary tissue, rather than through the alimentary canal, so that the active substances they contain are administered, using gravity or force, directly into a blood vessel, organ, tissue, or lesion. Parenteral articles are prepared scrupulously by methods designed to ensure that they meet Pharmacopeial requirements for sterility, pyrogens, particulate matter, and other contaminants, and, where appropriate, contain inhibitors of the growth of microorganisms. An Injection is a preparation intended for parenteral administration and/or for constituting or diluting a parenteral article prior to administration.

NOMENCLATURE AND DEFINITIONS

Nomenclature*

The following nomenclature pertains to five general types of preparations, all of which are suitable for, and intended for, parenteral administration. They may contain buffers, preservatives, or other added substances.

1. [*DRUG*] *Injection*—Liquid preparations that are drug substances or solutions thereof.
2. [*DRUG*] *for Injection*—Dry solids that, upon the addition of suitable vehicles, yield solutions conforming in all respects to the requirements for *Injections*.
3. [*DRUG*] *Injectable Emulsion*—Liquid preparations of drug substances dissolved or dispersed in a suitable emulsion medium.
4. [*DRUG*] *Injectable Suspension*—Liquid preparations of solids suspended in a suitable liquid medium.
5. [*DRUG*] *for Injectable Suspension*—Dry solids that, upon the addition of suitable vehicles, yield preparations conforming in all respects to the requirements for *Injectable Suspensions*.

Definitions

PHARMACY BULK PACKAGE

A *Pharmacy bulk package* is a container of a sterile preparation for parenteral use that contains many single doses. The contents are intended for use in a pharmacy admixture program and are restricted to the preparation of admixtures for infusion or, through a sterile transfer device, for the filling of empty sterile syringes.

The closure shall be penetrated only one time after constitution with a suitable sterile transfer device or dispensing set which allows measured dispensing of the contents. The *Pharmacy bulk package* is to be used only in a suitable work area such as a laminar flow hood (or an equivalent clean air compounding area).

Designation as a *Pharmacy bulk package* is limited to preparations from *Nomenclature* categories 1, 2, or 3 as defined above. *Pharmacy bulk packages*, although containing more than one single dose, are exempt from the multiple-dose container volume limit of 30 mL and the requirement that they contain a substance or suitable mixture of substances to prevent the growth of microorganisms.

Where a container is offered as a *Pharmacy bulk package*, the label shall (a) state prominently "Pharmacy Bulk Package—Not for direct infusion," (b) contain or refer to information on proper techniques to help assure safe use of the product, and (c) bear a statement limiting the time frame in which the container may be used once it has been entered, provided it is held under the labeled storage conditions.

LARGE- AND SMALL-VOLUME INJECTIONS

Where used in this Pharmacopeia, the designation *Large-volume intravenous solution* applies to a single-dose injection that is intended for intravenous use and is packaged in containers labeled as containing more than 100 mL. The designation *Small-volume Injection* applies to an Injection that is packaged in containers labeled as containing 100 mL or less.

BIOLOGICS

The Pharmacopeial definitions for sterile preparations for parenteral use generally do not apply in the case of the biologics because of their special nature and licensing requirements (see *Biologics* ⟨1041⟩).

* This nomenclature has been adopted by the USP Drug Nomenclature Committee for implementation by supplemental revisions of *USP 23–NF 18*. Prior to revision, the following nomenclature continues in use in this Pharmacopeia: (1) medicaments or solutions or emulsions thereof suitable for injection, bearing titles of the form [*DRUG*] *Injection;* (2) dry solids or liquid concentrates containing no buffers, diluents, or other added substances, and which, upon the addition of suitable solvents, yield solutions conforming in all respects to the requirements for Injections, and which are distinguished by titles of the form *Sterile* [*DRUG*]; (3) preparations the same as those described under (2) except that they contain one or more buffers, diluents, or other added substances, and which are distinguished by titles of the form [*DRUG*] *for Injection;* (4) solids which are suspended in a suitable fluid medium and which are not to be injected intravenously or into the spinal canal, distinguished by titles of the form *Sterile* [*DRUG*] *Suspension;* and (5) dry solids which, upon the addition of suitable vehicles, yield preparations conforming in all respects to the requirements for Sterile Suspensions, and which are distinguished by titles of the form *Sterile* [*DRUG*] *for Suspension*.

INGREDIENTS

Vehicles and Added Substances

Aqueous Vehicles—The vehicles for aqueous Injections meet the requirements of the *Pyrogen Test* ⟨151⟩ or the *Bacterial Endotoxins Test* ⟨85⟩, whichever is specified. *Water for Injection* generally is used as the vehicle, unless otherwise specified in the individual monograph. Sodium chloride may be added in amounts sufficient to render the resulting solution isotonic; and *Sodium Chloride Injection*, or *Ringer's Injection*, may be used in whole or in part instead of *Water for Injection* unless otherwise specified in the individual monograph. For conditions applying to other adjuvants, see *Added Substances* in this chapter.

Other Vehicles—Fixed oils used as vehicles for nonaqueous injections are of vegetable origin, are odorless or nearly so, and have no odor suggesting rancidity. They meet the requirements of the test for *Solid paraffin* under *Mineral Oil*, the cooling bath being maintained at 10°, have a *Saponification value* between 185 and 200 (see *Fats and Fixed Oils* ⟨401⟩), have an *Iodine value* between 79 and 141 (see *Fats and Fixed Oils* ⟨401⟩), and meet the requirements of the following tests.

Unsaponifiable Matter—Reflux on a steam bath 10 mL of the oil with 15 mL of sodium hydroxide solution (1 in 6) and 30 mL of alcohol, with occasional shaking until the mixture becomes clear. Transfer the solution to a shallow dish, evaporate the alcohol on a steam bath, and mix the residue with 100 mL of water: a clear solution results.

Free Fatty Acids—The free fatty acids in 10 g of oil require for neutralization not more than 2.0 mL of 0.020 *N* sodium hydroxide (see *Fats and Fixed Oils* ⟨401⟩).

Synthetic mono- or diglycerides of fatty acids may be used as vehicles, provided they are liquid and remain clear when cooled to 10° and have an *Iodine value* of not more than 140 (see *Fats and Fixed Oils* ⟨401⟩).

These and other nonaqueous vehicles may be used, provided they are safe in the volume of injection administered, and also provided they do not interfere with the therapeutic efficacy of the preparation or with its response to prescribed assays and tests.

Added Substances—Suitable substances may be added to preparations intended for injection to increase stability or usefulness, unless proscribed in the individual monograph, provided they are harmless in the amounts administered and do not interfere with the therapeutic efficacy or with the responses to the specified assays and tests. No coloring agent may be added, solely for the purpose of coloring the finished preparation, to a solution intended for parenteral administration (see also *Added Substances* under *General Notices* and *Antimicrobial Preservatives—Effectiveness* ⟨51⟩).

Observe special care in the choice and use of added substances in preparations for injection that are administered in a volume exceeding 5 mL. The following maximum limits prevail unless otherwise directed: for agents containing mercury and the cationic, surface-active compounds, 0.01%; for those of the types of chlorobutanol, cresol, and phenol, 0.5%; and for sulfur dioxide, or an equivalent amount of the sulfite, bisulfite, or metabisulfite of potassium or sodium, 0.2%.

A suitable substance or mixture of substances to prevent the growth of microorganisms must be added to preparations intended for injection that are packaged in multiple-dose containers, regardless of the method of sterilization employed, unless one of the following conditions prevails: 1) There are different directions in the individual monograph. 2) The substance contains a radionuclide with a physical half-life of less than 24 hours. 3) The active ingredients are themselves antimicrobial. Such substances are used in concentrations that will prevent the growth of or kill microorganisms in the preparations for injection. Such substances also meet the requirements of *Antimicrobial Preservatives—Effectiveness* ⟨51⟩ and *Antimicrobial Agents—Content* ⟨341⟩. Sterilization processes are employed even though such substances are used (see also *Parenteral and Topical Preparations* in the section *Added Substances* under *General Notices* and *Sterilization and Sterility Assurance of Compendial Articles* ⟨1211⟩). The air in the container may be evacuated or be displaced by a chemically inert gas. Where specified in a monograph, information regarding sensitivity of the article to oxygen is to be provided in the labeling.

LABELS AND LABELING

Labeling—[NOTE—See definitions of "label" and "labeling" under *Labeling* in the section *Preservation, Packaging, Storage, and Labeling* of the *General Notices.*]

The label states the name of the preparation; in the case of a liquid preparation, the percentage content of drug or amount of drug in a specified volume; in the case of a dry preparation, the amount of *active* ingredient; the route of administration; a statement of storage conditions and an expiration date; the name of the manufacturer and distributor; and an identifying lot number. The lot number is capable of yielding the complete manufacturing history of the specific package, including all manufacturing, filling, sterilizing, and labeling operations.

Where the individual monograph permits varying concentrations of active ingredients in the large-volume parenteral, the concentration of each ingredient named in the official title is stated as if part of the official title, e.g., Dextrose Injection 5%, or Dextrose (5%) and Sodium Chloride (0.2%) Injection.

The labeling includes the following information if the complete formula is not specified in the individual monograph: (1) In the case of a liquid preparation, the percentage content of each ingredient or the amount of each ingredient in a specified volume, except that ingredients added to adjust to a given pH or to make the solution isotonic may be declared by name and a statement of their effect; and (2) in the case of a dry preparation or other preparation to which a diluent is intended to be added before use, the amount of each ingredient, the composition of recommended diluent(s) [the name(s) alone, if the formula is specified in the individual monograph], the amount to be used to attain a specific concentration of active ingredient and the final volume of solution so obtained, a brief description of the physical appearance of the constituted solution, directions for proper storage of the constituted solution, and an expiration date limiting the period during which the constituted solution may be expected to have the required or labeled potency if it has been stored as directed.

Containers for Injections that are intended for use as dialysis, hemofiltration, or irrigation solutions and that contain a volume of more than 1 liter are labeled to indicate that the contents are not intended for use by intravenous infusion.

Injections intended for veterinary use are labeled to that effect.

The container is so labeled that a sufficient area of the container remains uncovered for its full length or circumference to permit inspection of the contents.

PACKAGING

Containers for Injections

Containers, including the closures, for preparations for injections do not interact physically or chemically with the preparations in any manner to alter the strength, quality, or purity beyond the official requirements under the ordinary or customary conditions of handling, shipment, storage, sale, and use. The container is made of material that permits inspection of the contents. The type of glass preferable for each parenteral preparation is usually stated in the individual monograph.

For definitions of single-dose and multiple-dose containers, see *Containers* under *General Notices.* Containers meet the requirements under *Containers* ⟨661⟩.

Containers are closed by fusion, or by application of suitable closures, in such manner as to prevent contamination or loss of contents. Closures for multiple-dose containers permit the withdrawal of the contents without removal or destruction of the closure. The closure permits penetration by a needle, and, upon withdrawal of the needle, at once recloses the container against contamination.

The use of a black closure system on a vial (e.g., a black flip-off button and a black ferrule to hold the elastomeric closure), or the use of a black band or series of bands above the constriction on an ampul, is prohibited except for *Potassium Chloride for Injection Concentrate.*

Containers for Sterile Solids

Containers, including the closures, for dry solids intended for parenteral use do not interact physically or chemically with the preparation in any manner to alter the strength, quality, or purity beyond the official requirements under the ordinary or customary conditions of handling, shipment, storage, sale, and use.

A container for a sterile solid permits the addition of a suitable solvent and withdrawal of portions of the resulting solution or suspension in such manner that the sterility of the product is maintained.

Where the *Assay* in a monograph provides a procedure for *Assay preparation* in which the total withdrawable contents are to be withdrawn from a single-dose container with a hypodermic needle and syringe, the contents are to be withdrawn as completely as possible into a dry hypodermic syringe of a rated capacity not exceeding three times the volume to be withdrawn and fitted with a 21-gauge needle not less than 2.5 cm (1 inch) in length, care being taken to expel any air bubbles, and discharged into a container for dilution and assay.

Volume in Container

Each container of an Injection is filled with sufficient excess of the labeled "size" or that volume which is to be withdrawn. See *Injections* under *Pharmaceutical Dosage Forms* ⟨1151⟩.

DETERMINATION OF VOLUME OF INJECTION IN CONTAINERS

Select 1 or more containers if the volume is 10 mL or more, 3 or more if the volume is more than 3 mL and less than 10 mL, or 5 or more if the volume is 3 mL or less. Take up individually the contents of each container selected into a dry hypodermic syringe of a rated capacity not exceeding three times the volume to be measured, and fitted with a 21-gauge needle not less than 2.5 cm (1 inch) in length. Expel any air bubbles from the syringe and needle, and then discharge the contents of the syringe, without emptying the needle, into a standardized, dry cylinder (graduated to contain rather than to deliver the designated volumes) of such size that the volume to be measured occupies at least 40% of its rated volume. Alternatively, the contents of the syringe may be discharged into a dry, tared beaker, the volume, in mL, being calculated as the weight, in g, of Injection taken divided by its density. The contents of two or three 1-mL or 2-mL containers may be pooled for the measurement, provided that a separate, dry syringe assembly is used for each container. The content of containers holding 10 mL or more may be determined by means of opening them and emptying the contents directly into the graduated cylinder or tared beaker.

The volume is not less than the labeled volume in the case of containers examined individually or, in the case of 1-mL and 2-mL containers, is not less than the sum of the labeled volumes of the containers taken collectively.

For Injections in multiple-dose containers labeled to yield a specific number of doses of a stated volume, proceed as directed in the foregoing, using the same number of separate syringes as the number of doses specified. The volume is such that each syringe delivers not less than the stated dose.

For Injections containing oil, warm the containers, if necessary, and thoroughly shake them immediately before removing the contents. Cool to 25° before measuring the volume.

Packaging and Storage

The volume of Injection in single-dose containers provides the amount specified for parenteral administration at one time and in no case is more than sufficient to permit the withdrawal and administration of 1 liter.

Preparations intended for intraspinal, intracisternal, or peridural administration are packaged only in single-dose containers.

Unless otherwise specified in the individual monograph, a multiple-dose container contains a volume of Injection sufficient to permit the withdrawal of not more than 30 mL.

Injections packaged for use as irrigation solutions or for hemofiltration or dialysis or for parenteral nutrition are exempt from the 1-liter restriction of the foregoing requirements relating to packaging. Containers for Injections packaged for use as hemofiltration or irrigation solutions may be designed to empty rapidly and may contain a volume of more than 1 liter.

Injections labeled for veterinary use are exempt from packaging and storage requirements concerning the limitation to single-dose containers and the limitation on the volume of multiple-dose containers.

FOREIGN MATTER AND PARTICLES

Foreign Matter

Every care should be exercised in the preparation of all products intended for injection, to prevent contamination with microorganisms and foreign material. Good pharmaceutical practice requires also that each final container of Injection be subjected individually to a physical inspection, whenever the nature of the container permits, and that every container whose contents show evidence of contamination with visible foreign material be rejected.

Particulate Matter

All large-volume Injections for single-dose infusion, and those small-volume Injections for which the monographs specify such requirements, are subject to the particulate matter limits set forth under *Particulate Matter in Injections* ⟨788⟩. An article packaged as both a large-volume and a small-volume Injection meets the requirements set forth for *Small-volume Injections* where the container is labeled as containing 100 mL or less if the individual monograph includes a test for *Particulate matter;* it meets the requirements set forth for *Large-volume Injections for Single-dose Infusion* where the container is labeled as containing more than 100 mL. Injections packaged and labeled for use as irrigating solutions are exempt from requirements for *Particulate matter.*

STERILITY

Sterility Tests—Preparations for injection meet the requirements under *Sterility Tests* ⟨71⟩.

CONSTITUTED SOLUTIONS

Dry solids from which constituted solutions are prepared for injection bear titles of the form [*DRUG*] *for Injection.* Since these dosage forms are constituted at the time of use by the health care practitioner, tests and standards pertaining to the solution as constituted for administration are not included in the individual monographs on sterile dry solids or liquid concentrates. However, in the interest of assuring the quality of injection preparations as they are actually administered, the following nondestructive tests are provided for demonstrating the suitability of constituted solutions when they are prepared just prior to use.

Completeness and Clarity of Solution—Constitute the solution as directed in the labeling supplied by the manufacturer for the sterile dry dosage form.

A: The solid dissolves completely, leaving no visible residue as undissolved matter.

B: The constituted solution is not significantly less clear than an equal volume of the diluent or of Purified Water contained in a similar vessel and examined similarly.

Particulate Matter—Constitute the solution as directed in the labeling supplied by the manufacturer for the sterile dry dosage form: the solution is essentially free from particles of foreign matter that can be observed on visual inspection.

⟨11⟩ USP REFERENCE STANDARDS

USP Reference Standards are established and released under the authority of the USPC Board of Trustees upon recommendation of the USP Reference Standards Committee, which passes on the selection and suitability of each lot. The critical characteristics of each lot of specimen selected for the standard are usually determined independently in three or more laboratories. The USP Drug Research and Testing Laboratory (see *Preface*) and the FDA laboratories participate in testing almost all new Standards and replace-

ments for existing Standards. In addition, laboratories throughout the nation, both academic and industrial, participate in the testing.

Reference Standards are specifically required in many Pharmacopeial assays and tests and are provided solely for such use; suitability for other nonofficial application(s) rests with the purchaser. Originally introduced for the biological assays of USP X, reference standards are now required for numerous other procedures as well. This reflects the extensive use of modern chromatographic and spectrophotometric methods, which require measurements relative to a reference standard to attain accurate and reproducible results.

USP Reference Standards are substances selected for their high purity, critical characteristics, and suitability for the intended purpose. Heterogeneous substances, of natural origin, also are designated "Reference Standards" where needed. Usually these are the counterparts of international standards.

Antibiotic reference standards distributed by the USPC have been designated by the FDA as identical to FDA working standards under the FDA procedures. USPC distributes both U.S. Reference Standards and USP Reference Standards for antibiotic substances. This difference in labeling the Standards is in effect only temporarily, and eventually all vials will bear the same title. Where a USP Reference Standard is called for, the corresponding substance labeled as a "U.S. Reference Standard" may be used, and vice versa.

Reference Standards currently labeled as "NF Reference Standards" will eventually all be designated and labeled as "USP Reference Standards", pursuant to the consolidation of USP and NF within the USPC as of January 2, 1975. Meanwhile, where a USP Reference Standard is called for, the corresponding substance labeled as an "NF Reference Standard" may be used.

Other Reference Substances

As a service, the USPC tests and distributes additional authenticated substances not currently required as USP or NF Reference Standards. These also are provided under the supervision of the USP Reference Standards Committee. These additional substances fall into three groups: (1) former USP and NF Reference Standards, not required in the current USP or NF but for which sufficient demand remains; (2) FCC Reference Standards, specified in the current edition of the Food Chemicals Codex; and (3) Authentic Substances (AS), which are highly purified samples of chemicals, including substances of abuse, that are collaboratively tested and made available as a service primarily to analytical, clinical, pharmaceutical, and research laboratories.

The distribution of controlled substances is subject to the regulations and licensing provisions of the Drug Enforcement Administration of the Department of Justice.

As an additional service, the USPC distributes several non-commercial reagents required in certain USP monographs. These reagents are specially prepared for their intended use and will be distributed by USPC only until they become commercially available.

A program to provide international biological standards and chemical reference substances is maintained by the World Health Organization, an agency of the United Nations. The WHO program is concerned with reference materials for antibiotics, biologicals, and chemotherapeutic agents. As a rule, an International Standard for a material of natural origin is discontinued once the substance responsible for its characteristic activity has been isolated, identified, and prepared in such form that it can be completely characterized by chemical and physical means. The USP Reference Standards Committee collaborates closely with the WHO in order to minimize unavoidable differences in the actual units of potency, and in some cases to share in the preparation of a reference standard. Since some USP Reference Standards are standardized in terms of the corresponding International Standards, the relevant USP Units and the International Units of potency are generally identical.

CURRENT LOTS

It is the responsibility of each analyst to ascertain that his particular supply of USP Reference Standard is current. Only sufficient quantity for immediate use should be purchased, and long-term storage should be avoided.

To ensure ready access to the latest information, the USPC publishes the Official Catalog of Reference Standards and Authentic Substances, and the lot designations, bimonthly in *Pharmacopeial Forum*.* This system offers more positive control and flexibility in responding to revisions in Reference Standard usage than would expiration dates. The Catalog in the most recent *Pharmacopeial Forum* identifies items that are official in the USP Reference Standards collection at the time of publication.

Two columns appear in the Catalog to identify the current official lots. One column identifies the official lot currently being shipped by USPC. In some cases, the previous lot may still be considered official. If so, it is identified in the second column. Ordinarily the previous lot is carried in official status for about one year after the current lot entered distribution unless, because of a change in monograph requirements or stability limitations, the previous lot is found to be no longer suitable.

PROPER USE OF USP REFERENCE STANDARDS

Unless a Reference Standard label states a specific potency or content, the Reference Standard is taken as being 100.0% pure for compendial purposes. The suitability of a USP Reference Standard for noncompendial application is left up to the user.

To serve its intended purpose, each USP Reference Standard must be properly stored, handled, and used. Generally, Reference Standards should be stored in their original stoppered containers away from heat and protected from light. Avoid humid storage areas in particular. Where special storage conditions are necessary, directions are given on the label.

Neither Reference Standards nor Authentic Substances are intended for use as drugs or as medical devices.

Many Pharmacopeial tests and assays are based on comparison of a test specimen with a USP Reference Standard. In such cases, measurements are made on preparations of both the test specimen and the Reference Standard. Where it is directed that a Standard solution or a *Standard preparation* be prepared for a quantitative determination by stepwise dilution or otherwise, it is intended that the Reference Standard substance shall be accurately weighed (see *Weights and Balances* ⟨41⟩ and *Volumetric Apparatus* ⟨31⟩). Due account should also be taken of the relatively large errors associated with weighing small masses (see also *Dilution* under *General Notices*).

Assay and test results are determined on the basis of comparisons of the specimen under test with a USP Reference Standard that has been freed from or corrected for volatile residues or water content as instructed on the label. Where special drying requirements for Reference Standards are found in specific sections of USP or NF monographs, those supersede the usual instructions (see *Procedures* under *Tests and Assays* in the *General Notices*). Where a USP Reference Standard is required to be dried before using, transfer an amount, sufficient after drying, to a clean and dry vessel. Do not use the original container as the drying vessel, and do not dry a specimen repeatedly at temperatures above 25°. Where the titrimetric determination of water is required at the time a Reference Standard is to be used, proceed as directed for *Method I* under *Water Determination* ⟨921⟩. Instrumental or microanalytical methods are acceptable for this purpose. When using typical amounts, about 50 mg, of the Reference Standard, titrate with a fourfold dilution of the *Reagent*.

The *USP Reference standard(s)* section of an individual USP or NF monograph or general chapter names the USP Reference Standard(s) required for assay and test procedures and refers to this chapter for additional information and instructions. The list that follows presents the instructions for the proper use and storage of each required USP Reference Standard. These instructions are to be the same as those appearing on the corresponding USP Reference Standard label. Where, in an isolated instance, the specific label instruction differs from the text in the following list, the instruction on the label of the item from the current lot takes precedence. A situation may be infrequently encountered where it is necessary, on scientific grounds, to effect immediately a change in the instruc-

* For nonsubscribers, the most recent Official Catalog is available from: U.S. Pharmacopeial Convention, Inc., Reference Standards Order Department, 12601 Twinbrook Parkway, Rockville, MD 20852. Telephone 1-301-881-0666. FAX 1-301-816-8148. Toll-free telephone 1-800-227-USPC or access the Catalog on USP's web site www.usp.org/dsd/refstd.

tions. This change can be made easily on the label of the Reference Standard, whereas the formal process for revising the compendial text requires more time. Thus, it is especially important to refer to the current Supplement to USP and to NF for official revisions to the following list.

USP REFERENCE STANDARDS SPECIFIED IN USP AND NF MONOGRAPHS AND GENERAL CHAPTERS

NOTE—Consult the latest Supplement or Interim Revision Announcement Pertaining to USP and to NF for revisions, additions, or deletions.

Revisions, additions, and deletions of individual USP Reference Standards are listed cumulatively in each USP-NF Supplement. As a consequence, therefore, it is necessary to consult only *USP 24–NF 19* and the latest Supplement for the complete list of USP Reference Standards currently specified in USP-NF monographs and general chapters. The list provides up-to-date and complete names, applicable chemical information, and handling instructions for the USP Reference Standards that are in distribution as of the official date of that Supplement.

Revisions of this chapter are implemented continuously via the Interim Revision Announcements that are published in *Pharmacopeial Forum*. Those interim revisions of USP Reference Standards are cumulatively included in the next USP-NF Supplement.

The alphabetical list that follows constitutes an index of all revisions to this chapter. Thus, it is unnecessary to name repetitively the revised Reference Standards in the general index to the Supplement.

In the list that follows, chemical names are given for many substances (e.g., related compounds) that are not USP or NF monograph articles. Following the name of such a chemical substance RS, the empirical formula and molecular weight, separated by the ✧ symbol, may be given in parentheses if those data are available.

USP Acebutolol Hydrochloride RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Acepromazine Maleate RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed and protected from light.

USP 5-Acetamido-3-amino-2,4,6-triiodobenzoic Acid RS—(NAME CHANGE) See *USP Diatrizoic Acid Related Compound A RS*.

USP Acetaminophen RS—Dry portion over silica gel for 18 hours before using. Keep container tightly closed and protected from light.

USP Acetanilide Melting Point RS—Dry portion over sulfuric acid for 16 hours before using. When melted by the capillary tube method, Class Ia in chapter ⟨741⟩ *Melting Range and Temperature*, the observed range falls within the indicated acceptance range. Keep container tightly closed.

USP Acetazolamide RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Acetohexamide RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Acetohydroxamic Acid RS—Dry portion over phosphorus pentoxide for 16 hours before using. Keep container tightly closed and store in a desiccator in a cool place.

USP α-*d*-2-Acetoxy-4-dimethylamino-1,2-diphenyl-3-methylbutane RS ($C_{21}H_{27}NO_2$ ✧ 325.45)—Do not dry before using. Keep container tightly closed and protected from light.

USP Acetylcholine Chloride RS—Dry portion at 105° for 3 hours before using. Once opened, store in a desiccator and keep container tightly closed. This material is extremely hygroscopic.

USP Acetylcysteine RS—Dry portion at a pressure of about 50 mm of mercury at 70° for 4 hours before using. Keep container tightly closed.

USP Acetyltributyl Citrate RS.

USP Acetyltriethyl Citrate RS.

USP Acyclovir RS—Do not dry; determine the water content titrimetrically at the time of use for quantitative analyses. Keep container tightly closed.

USP Adenine RS—Dry portion at 110° for 4 hours before using. Keep container tightly closed and protected from light.

USP Adenosine RS.

USP L-Alanine RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Albendazole RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Albuterol RS—Do not dry before using. Keep container tightly closed and protected from light.

USP Albuterol Sulfate RS—Do not dry before using. Keep container tightly closed and protected from light.

USP Alclometasone Dipropionate RS—Do not dry before using. Keep container tightly closed.

USP Alfentanil Hydrochloride RS.

USP Allopurinol RS—Dry portion in vacuum at 105° for 5 hours before using. Keep container tightly closed.

USP Allopurinol Related Compound A RS [3-amino-4-carboxamidopyrazole hemisulfate] ($(C_4H_6N_4O)_2 \cdot H_2SO_4$ ✧ 350.32)—Dry portion in vacuum at 105° for 3 hours before using. Keep container tightly closed.

USP Alprazolam RS—Do not dry before using. Keep container tightly closed.

USP Alprostadil RS—Do not dry before using. Keep container tightly closed and store in a freezer.

USP Alteplase RS.

USP Altretamine RS.

USP Dried Aluminum Hydroxide Gel RS—Do not dry before using. Keep container tightly closed.

USP Amantadine Hydrochloride RS—Do not dry before using. Keep container tightly closed.

USP Amcinonide RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Amikacin RS—Do not dry before using. Keep container tightly closed, protected from light, and store in a cold place.

USP Amiloride Hydrochloride RS—Using thermogravimetric analysis (see *Thermal Analysis* ⟨891⟩), heat a 10-mg portion, accurately weighed, at 10° per minute between ambient temperature and 225° under nitrogen flowing at 40 mL per minute. From the thermogram, determine the accumulated loss in weight between ambient temperature and about 200° on the plateau. Keep container tightly closed.

USP Aminobenzoic Acid RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed and protected from light.

USP Aminobutanol RS ($C_4H_{11}NO$ ✧ 89.14)—This material is hygroscopic. After opening ampul, store in tightly closed container. Do not dry; determine the water content titrimetrically at the time of use.

USP Aminocaproic Acid RS—Dry portion at 105° for 30 minutes before using. Keep container tightly closed.

USP *N*-(Aminocarbonyl)-*N*-[[5-nitro-2-furanyl]-methylene)-amino]-glycine RS—Do not dry before using.

USP 3-Amino-4-carboxamidopyrazole Hemisulfate RS—(NAME CHANGE) See *USP Allopurinol Related Compound A RS*.

USP 2-Amino-5-chlorobenzophenone RS ($C_{13}H_{10}ClNO$ ✧ 231.68)—Keep container tightly closed and protected from light. Dry portion over silica gel for 4 hours before using.

USP 4-Amino-6-chloro-1,3-benzenedisulfonamide RS ($C_6H_8ClN_3O_4S_2$ ✧ 285.73)—Keep container tightly closed and protected from light. Dry portion over silica gel for 4 hours before using.

USP 3-Amino-6-chloro-1-methyl-4-phenylcarbostyril RS ($C_{16}H_{15}ClN_2O$ ✧ 286.76)—Do not dry before using. Keep container tightly closed and protected from light.

USP 2-Amino-2′-chloro-5-nitrobenzophenone RS—(NAME CHANGE) See *USP Clonazepam Related Compound B RS*.

USP 4-Amino-6-chloro-N^3-methyl-*m*-benzenedisulfonamide RS ($C_7H_{10}ClN_3O_4S_2$ ✧ 299.76)—Keep container tightly closed and protected from light. Dry portion over silica gel for 4 hours before using.

USP 2-Amino-4-chlorophenol RS—(NAME CHANGE) See USP Chlorzoxazone Related Compound A RS.

USP 3-Amino-4-(2-chlorophenyl)-6-nitrocarbostyril RS—(NAME CHANGE) See *USP Clonazepam Related Compound A RS*.

USP 2-Amino-2′,5-dichlorobenzophenone RS—(NAME CHANGE) See *USP Lorazepam Related Compound B RS*.

USP 3-Amino-4-phenoxy-5-sulfamoylbenzoic Acid RS ($C_{13}H_{12}N_2O_5S$ ✧ 308.32)—Do not dry before using. Keep container tightly closed.

USP 3-Amino-2,4,6-triiodobenzoic Acid RS ($C_7H_4I_3NO_2$ ✧ 514.83)—Dry portion at 105° for 4 hours before using. Keep container tightly closed and protected from light.

USP 5-Amino-2,4,6-triiodo-*N*-methylisophthalamic Acid RS ($C_9H_7I_3N_2O_3$ ✧ 571.88)—Dry portion at 105° for 4 hours before using. Keep container tightly closed and protected from light.

USP Aminoglutethimide RS—Dry portion at 105° to constant weight before using. Keep container tightly closed.

USP *m*-Aminoglutethimide RS—Do not dry before using. Keep container tightly closed.

USP Aminohippuric Acid RS—Do not dry before using. Keep container tightly closed and protected from light. Material will discolor if exposed to light and air.

USP 5-Aminoimidazole-4-carboxamide Hydrochloride RS ($C_4H_6N_4O \cdot HCl$ ✧ 162.58)—Do not dry before using. Keep container tightly closed and protected from light, and store in a refrigerator.

USP *m*-Aminophenol RS (C_6H_7NO ✧ 109.13)—Do not dry before using. Keep container tightly closed and protected from light, store in a cold place.

USP α-Aminopropiophenone Hydrochloride RS—(NAME CHANGE) See USP *Cathinone Hydrochloride RS*.

USP Aminosalicylic Acid RS—Dry portion in vacuum at 50° for 1 hour before using. Keep container tightly closed, protected from light, and store at a temperature not exceeding 30°.

USP Amitraz RS.

USP Amitriptyline Hydrochloride RS—Dry portion at a pressure not exceeding 5 mm of mercury at 60° to constant weight before using. Keep container tightly closed.

USP Ammonio Methacrylate Copolymer, Type A RS—Dry portion in vacuum at 80° for 5 hours before using. Keep container tightly closed.

USP Ammonio Methacrylate Copolymer, Type B RS—Dry portion in vacuum at 80° for 5 hours before using. Keep container tightly closed.

USP Amobarbital RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Amodiaquine Hydrochloride RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Amoxapine RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Amoxicillin RS—Do not dry before using. This is a trihydrate form of Amoxicillin. Keep container tightly closed. Protect from light and store in a freezer.

USP Amphotericin B RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Ampicillin RS—This is the anhydrous form of ampicillin. Before using, dry portion to constant weight in vacuum over phosphorus pentoxide at room temperature. Keep container tightly closed. Store in a cool, dry place.

USP Ampicillin Sodium RS—Do not dry before using. Hygroscopic. Keep container tightly closed. Store in a cool, dry place.

USP Ampicillin Trihydrate RS—Do not dry before using. Keep container tightly closed and protected from light. Store in a cold, dry place.

USP Amprolium RS—Dry portion at a pressure not exceeding 5 mm of mercury at 100° for 3 hours before using. Keep container tightly closed.

USP Amrinone RS—Do not dry before using; determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Amrinone Related Compound A RS [1,6-dihydro-6-oxo-(3,4′-bipyridine)-5-carboxamide] ($C_{11}H_9N_3O_2$ ✧ 215.21)—Do not dry; use as is.

USP Amrinone Related Compound B RS [*N*-(1,6-dihydro-6-oxo-(3,4′-bipyridine)-5-yl)-2-hydroxypropanamide] ($C_{13}H_{13}N_3O_3$ ✧ 259.3)—Do not dry; use as is.

USP Amrinone Related Compound C RS [1,6-dihydro-6-oxo-(3,4′-bipyridine)-5-carbonitrile] ($C_{11}H_7N_3O$ ✧ 197.20)—Do not dry; use as is.

USP Anileridine Hydrochloride RS—Dry portion at a pressure below 5 mm of mercury at 100° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Antazoline Phosphate RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Anthralin RS—Dry portion over silica gel for 4 hours before using. Keep container tightly closed. Protect from light.

USP Antipyrine RS—Dry portion at 60° for 2 hours before using. Keep container tightly closed.

USP Anti-thrombin III RS.

USP Apigenin-7-O-glucoside RS.

USP Apomorphine Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Apraclonidine Hydrochloride RS—Dry portion in vacuum at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP L-Arginine RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Arginine Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Arsanilic Acid RS.

USP Ascorbic Acid RS—Do not dry. Keep container tightly closed and protected from light.

USP Aspartame RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a desiccator.

USP Aspartame Related Compound A RS [5-benzyl-3,6-dioxo-2-piperazineacetic acid] ($C_{13}H_{14}N_2O_4$ ✧ 262.27)—Do not dry. Keep container tightly closed and protected from light.

USP Aspirin RS—Dry portion over silica gel for 5 hours before using. Keep container tightly closed.

USP Astemizole RS.

USP Atenolol RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Atropine Sulfate RS—Dry portion at 120° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Aurothioglucose RS—Dry portion over phosphorus pentoxide for 24 hours before using. Keep container tightly closed. Protect from light.

USP Avobenzone RS.

USP Azaerythromycin A RS—Do not dry before using. Keep container tightly closed.

USP 2-Azahypoxanthine RS ($C_4H_3N_5O$ ✧ 137.10)—This is the monohydrate form of 2-azahypoxanthine. Do not dry before using. Keep container tightly closed and protected from light, and store in a refrigerator.

USP Azaperone RS—Dry portion in vacuum at 60° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Azatadine Maleate RS—Dry portion in vacuum at 60° for 3 hours before using. Keep container tightly closed.

USP Azathioprine RS—Dry portion in vacuum at 105° for 5 hours before using. Keep container tightly closed. Protect from light.

USP Azithromycin RS—Do not dry before using. Keep container tightly closed and store in a freezer.

USP Azo-aminoglutethimide RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Aztreonam RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Aztreonam *E*-Isomer RS—Do not dry before using. Keep container tightly closed, protected from light, air, and moisture, and store in a refrigerator.

USP Open Ring Aztreonam RS ($C_{18}H_{19}N_5O_9S_2$ ✧ 453.46)—Do not dry before using. Keep container tightly closed and protected

from light, and store in a freezer. This material is extremely hygroscopic.

USP Bacampicillin Hydrochloride RS—Do not dry. Keep container tightly closed.

USP Bacitracin Zinc RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Baclofen RS—Do not dry; determine the water content titrimetrically at time of use. Keep container tightly closed.

USP Baclofen Related Compound A RS [4-(4-chlorophenyl)-2-pyrrolidinone]($C_{10}H_{10}ClNO$ ✧ 195.65)—Do not dry before using. Keep container tightly closed, protect from light, and store in a desiccator.

USP Beclomethasone Dipropionate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Bendroflumethiazide RS—Dry portion over silica gel for 4 hours before using. Keep container tightly closed.

USP Benoxinate Hydrochloride RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Benzalkonium Chloride RS—After opening ampul, store in a tightly closed container.

USP Benzocaine RS—Dry portion over phosphorus pentoxide for 3 hours before using. Keep container tightly closed.

USP Benzoic Acid RS—Dry portion over silica gel for 3 hours before using. Keep container tightly closed.

USP Benzonatate RS—Do not dry. After opening ampul, store in a tightly closed, light-resistant container.

USP 1,4-Benzoquinone RS—Do not dry before using. Keep container tightly closed and store in a refrigerator, protected from light. Sonication may be necessary to dissolve the material.

USP Benztropine Mesylate RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Benzyl Benzoate RS—Do not dry. After opening the ampul, store in a tightly closed container, protected from light.

USP 5-Benzyl-3,6-dioxo-2-piperazineacetic Acid RS—See *USP Aspartame Related Compound A RS.*

USP 1-Benzyl-3-methyl-5-aminopyrazole Hydrochloride RS ($C_{11}H_{13}N_3 \cdot HCl$ ✧ 223.71)—Keep container tightly closed and protected from light. Dry portion over silica gel for 4 hours before using.

USP Betaine Hydrochloride RS.

USP Betamethasone RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Betamethasone Acetate RS—Do not dry; determine the water content titrimetrically at time of use. Keep container tightly closed.

USP Betamethasone Benzoate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Betamethasone Dipropionate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Betamethasone Sodium Phosphate RS—Determine the water content titrimetrically at time of use. Keep container tightly closed. Store in a dry place. NOTE—This material is hygroscopic.

USP Betamethasone Valerate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Betaxolol Hydrochloride RS—Dry portion in vacuum at 65° for 2 hours before using. Keep container tightly closed.

USP Bethanechol Chloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Bile Salts RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed. [*Caution—Avoid inhaling airborne particles.*]

USP Positive Bioreaction RS.

USP Biotin RS—Do not dry before using. Keep container tightly closed.

USP Biperiden RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Biperiden Hydrochloride RS—Dry portion at 105° for 3 hours. Keep container tightly closed and protected from light.

USP 2-(4-Biphenylyl)propionic Acid RS—See *USP Flurbiprofen Related Compound A RS.*

USP Bisacodyl RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP *N-N'*-Bis-(1,3-dihydroxy-2-propyl)-5-amino-2,4,6-triidoisophthalamide RS—(NAME CHANGE) See *USP Iopamidol Related Compound A RS.*

USP 4,4'-Bis[4-(*p*-chlorophenyl)-4-hydroxypiperidino]butyrophenone RS ($C_{32}H_{36}Cl_2N_2O_3$ ✧ 567.56)—Keep container tightly closed and protected from light. Dry portion in vacuum at 60° for 3 hours before using.

USP Bis(2-ethylhexyl) Maleate RS ($C_{20}H_{36}O_4$ ✧ 340.51)—Do not dry before using. Keep container tightly closed.

USP 4,4'-Bis[1,2,3,6-tetrahydro-4-(2-oxo-1-benzimidazolinyl)-1-pyridyl]butyrophenone RS ($C_{34}H_{34}N_6O_3$ ✧ 574.69)—Keep container tightly closed and protected from light. Dry portion in vacuum at 70° for 4 hours before using. Unstable material.

USP Bismuth Subsalicylate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Bleomycin Sulfate RS—Do not dry before using. Store in a freezer, protected from light, and allow to attain room temperature before opening. This material is very hygroscopic.

USP Bretylium Tosylate RS—Dry portion in vacuum at 75° for 2 hours before using. Keep container tightly closed.

USP Bromocriptine Mesylate RS—This material is hygroscopic. Determine the volatiles content by TGA, heating a separate 5-10 mg portion from 25° to 160° at 10° per minute under nitrogen flowing at about 45 mL/minute. Keep container tightly closed, protected from light, and store in a cold place.

USP Bromodiphenhydramine Hydrochloride RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP 8-Bromotheophylline RS [8-Bromo-3,7-dihydro-1,3-dimethyl-1*H*-purine-2,6-dione] ($C_7H_7N_4O_2Br$ ✧ 259.06)—Do not dry before using. For quantitative applications, determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Brompheniramine Maleate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Bumetanide RS—Do not dry before using. Keep container tightly closed. Protect from light.

USP Bupivacaine Hydrochloride RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Buprenorphine Hydrochloride RS—Do not dry before using. Keep container tightly closed and protected from light.

USP Buprenorphine Related Compound A RS [21-[3-(1-propenyl)]-7α-[(S)-1-hydroxy-1,2,2-trimethylpropyl]-6,14-*endo*-ethano-6,7,8,14-tetrahydrooripavine] ($C_{29}H_{41}NO_4$ ✧ 467.65)—Do not dry before using. Keep container tightly closed and protected from light.

USP Buspirone Hydrochloride RS—Do not dry before using. Keep container tightly closed and protected from light.

USP Butabarbital RS—Keep container tightly closed. Dry portion at 105° for 4 hours before using.

USP Butalbital RS—Dry portion in vacuum at room temperature to constant weight before using. Keep container tightly closed.

USP Butamben RS—Dry portion over phosphorus pentoxide for 3 hours before using. Keep container tightly closed.

USP Butoconazole Nitrate RS—Dry portion in vacuum at 60° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Butorphanol Tartrate RS—Do not dry; determine the water content titrimetrically at time of use. Keep container tightly closed.

USP 3-tert-Butyl-4-hydroxyanisole RS ($C_{11}H_{16}O_2$ ✧ 180.25)—Do not dry before using. Keep container tightly closed.

USP 2-*tert*-Butyl-4-hydroxyanisole RS ($C_{11}H_{16}O_2$ ✧ 180.25)—Do not dry before using. Keep container tightly closed.

USP Butyl 3-(butylamino)-4-phenoxy-5-sulfamoylbenzoate RS ($C_{21}H_{28}N_2O_5S$ ✧ 420.53)—Do not dry before using. Keep container tightly closed.

USP Butylparaben RS—Dry portion over silica gel for 5 hours before using. Keep container tightly closed.

USP Caffeine RS—This is the anhydrous form. Dry portion at 80° for 4 hours before using. Keep container tightly closed.

USP Caffeine Melting Point RS—Dry portion over silica gel for 16 hours before using. When melted by the USP capillary tube method, Class Ia in chapter ⟨741⟩ *Melting Range and Temperature*, the observed range falls within the indicated acceptance range. Keep container tightly closed and protected from light.

USP Calcifediol RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a freezer.

USP Calcium Ascorbate RS—Do not dry before using. Keep container tightly closed. Protect from light.

USP Calcium Formyltetrahydrofolate RS—(NAME CHANGE) See USP Folic Acid Related Compound A RS.

USP Calcium Gluceptate RS—This is the alpha form of Calcium Gluceptate. Dry portion in vacuum at 60° for 16 hours before using. Keep container tightly closed.

USP Calcium Lactobionate RS—Dry portion at 105° for 8 hours before using. Keep container tightly closed.

USP Calcium Pantothenate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Calcium Saccharate RS—Do not dry before using. Keep container tightly closed.

USP Capreomycin Sulfate RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 100° for 4 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Capsaicin RS—Dry portion at 40° in vacuum over phosphorus pentoxide for 5 hours before using. Keep container tightly closed, protected from light, and store in a cold place.

USP Captopril RS—Do not dry before using. Keep container tightly closed.

USP Captopril Disulfide RS—Do not dry before using. Keep container tightly closed.

USP Carbachol RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Carbamazepine RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Carbenicillin Indanyl Sodium RS—Do not dry. For quantitative applications determine the water content titrimetrically at the time of use. Keep container tightly closed. Protect from light. Store in a cold place.

USP Carbenicillin Monosodium Monohydrate RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Carbidopa RS—Do not dry before using. On a separate portion determine the *Loss on drying* at a pressure not exceeding 5 mm of mercury at 100° to constant weight, apply correction for quantitative use. Keep container tightly closed. Protect from light.

USP Carbinoxamine Maleate RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Carboplatin RS—Do not dry before using. Keep container tightly closed and protected from light.

USP Carisoprodol RS—Dry portion in vacuum at 60° for 3 hours before using. Keep container tightly closed.

USP Carteolol Hydrochloride RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Cathinone Hydrochloride RS [α-Aminopropiophenone hydrochloride] ($C_9H_{11}NO \cdot HCl$ ✧ 185.65)—Dry portion at 105° for 2 hours before using. Keep container tightly closed and protected from light.

USP Cefaclor RS—Do not dry. For quantitative applications determine the water content in percentage (*W*) titrimetrically at the time of use. Where calculation formulas require a correction factor use $P = 1000 - 10W$. Keep container tightly closed, protected from light, and store in a refrigerator.

USP Delta-3-cefaclor RS—Keep container tightly closed and store in a freezer.

USP Cefadroxil RS—Do not dry before using. This is the monohydrate form of cefadroxil. Keep container tightly closed. Protect from light. Store in a cold place.

USP Cefamandole Lithium RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Cefamandole Nafate RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Cefazolin RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a refrigerator.

USP Cefixime RS.

USP Cefmenoxime Hydrochloride RS—Do not dry before using. For quantitative applications, determine the water content titrimetrically at the time of use. Keep container tightly closed, protected from light and moisture, and store in a refrigerator.

USP Cefmetazole RS—Do not dry before using. Keep container tightly closed, protected from light, and store in a cold place.

USP Cefonicid Sodium RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed, and store in a cold, dry place, protected from light.

USP Cefoperazone Dihydrate RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Ceforanide RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Cefotaxime Sodium RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed, and store in a cold place.

USP Cefotetan RS—Do not dry before using. For quantitative applications, determine the water content titrimetrically at the time of use. Keep container tightly closed, protected from light, and store in a cold place.

USP Cefotiam Hydrochloride RS—Do not dry before using. For quantitative applications, determine the water content titrimetrically prior to use. Keep container tightly closed, protected from light and moisture, and store at a temperature not exceeding 5°. Prepare solutions immediately prior to use.

USP Cefoxitin RS—Do not dry. For quantitative applications, determine the water content in percentage (*W*) titrimetrically at the time of use. Where calculation formulas require a correction factor use $P = 1000 - 10W$. Keep container tightly closed. Protect from light. Store in a cold place in a desiccator.

USP Cefpiramide RS.

USP Cefprozil (*E*)-Isomer RS—Do not dry before using. Keep container tightly closed.

USP Cefprozil (*Z*)-Isomer RS—Do not dry before using. Keep container tightly closed.

USP Ceftazidime Delta-3-Isomer RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a freezer.

USP Ceftazidime Pentahydrate RS—Do not dry before using. Keep container tightly closed. Protect from light, air, and moisture. Store in a freezer.

USP Ceftizoxime RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold, dry place.

USP Ceftriaxone Sodium RS.

USP Ceftriaxone Sodium *E*-Isomer RS—Do not dry before using. Keep container tightly closed, protected from light, and store in a cold place.

USP Cefuroxime Axetil RS—Do not dry before using. For quantitative applications, determine the water content titrimetrically at the time of use. Keep container tightly closed, store in a refrigerator, and protect from light.

USP Cefuroxime Axetil Delta-3- Isomers RS—Do not dry. Keep container tightly closed, protected from light, and store in a freezer.

USP Cefuroxime Sodium RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold, dry place.

USP Cellacefate RS—Do not dry. Keep container tightly closed.

USP Cellulose Acetate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Cephaeline Hydrobromide RS—Dry a portion at 105° to constant weight before using. Keep container tightly closed. Protect from light.

USP Cephalexin RS—Do not dry before using. This is a monohydrate form of cephalexin. Keep container tightly closed. Store in a cold place.

USP Cephalothin Sodium RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Cephapirin Benzathine RS—Do not dry before using. Keep container tightly closed.

USP Cephapirin Sodium RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold, dry place.

USP Cephradine RS—Do not dry before using. This is the Dihydrate form of cephadrine. Keep container tightly closed. Protect from light. Store in a cold place.

USP Cetyl Alcohol RS—Do not dry before using. Keep container tightly closed.

USP Cetylpyridinium Chloride RS—Do not dry before using. For quantitative applications determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Chlorambucil RS—[*Caution—Avoid contact.*] Dry portion over silica gel for 24 hours before using. Keep container tightly closed. Protect from light.

USP Chloramphenicol RS—Do not dry before using. Keep container tightly closed. Store in a cold dry place.

USP Chloramphenicol Palmitate RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Chloramphenicol Palmitate Nonpolymorph A RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Chloramphenicol Palmitate Polymorph A RS—Do not dry before using. Keep container tightly closed and store in a cold, dry place.

USP Chlordiazepoxide RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Chlordiazepoxide Related Compound A RS [7-chloro-1,3-dihydro-5-phenyl-2*H*-1,4-benzodiazepin-2-one 4-oxide] ($C_{15}H_{11}ClN_2O_2$ ✧ 286.72)—Dry portion over silica gel for 4 hours before using. Keep container tightly closed and protected from light.

USP Chlordiazepoxide Hydrochloride RS—Dry portion in vacuum over phosphorus pentoxide at 60° for 4 hours before using. Keep container tightly closed. Protect from light.

USP *p*-Chlorobenzhydrylpiperazine RS—Do not dry; use as is. Keep container tightly closed.

USP Chlorobutanol RS—Do not dry before using. This is the hydrous form of chlorobutanol. Keep container tightly closed.

USP 7-Chloro-5-(*o*-chlorophenyl)-1,3-dihydro-3-acetoxy-2*H*-1,4-benzodiazepin-2-one RS—(NAME CHANGE) See *USP Lorazepam Related Compound A RS*.

USP 6-Chloro-4-(*o*-chlorophenyl)-2-quinazolinecarboxaldehyde RS—(NAME CHANGE) See *USP Lorazepam Related Compound C RS*.

USP 6-Chloro-4-(*o*-chlorophenyl)-2-quinazolinecarboxylic Acid RS—(NAME CHANGE) See *USP Lorazepam Related Compound D RS*.

USP 6-Chloro-4-(*o*-chlorophenyl)-2-quinazoline methanol RS—(NAME CHANGE) See *USP Lorazepam Related Compound E RS*.

USP 7-Chloro-1,3-dihydro-5-phenyl-2*H*-1,4-benzodiazepin-2-one RS—(NAME CHANGE) See *USP Nordazepam RS*.

USP 7-Chloro-1,3-dihydro-5-phenyl-2*H*-1,4-benzodiazepin-2-one 4-Oxide RS—(NAME CHANGE) See *USP Chlordiazepoxide Related Compound A RS*.

USP 2-Chloro-4-*N*-furfurylamino-5-sulfamoylbenzoic Acid RS—Keep container tightly closed and protected from light. Do not dry before using.

USP 2-Chloro-3,5-dimethylphenol RS (C_8H_9ClO ✧ 156.61)—Do not dry before using. Keep container tightly closed.

USP (*o*-Chlorophenyl)diphenylmethanol RS—(NAME CHANGE) See *USP Clotrimazole Related Compound A RS*.

USP 4-(4-Chlorophenyl)-2-pyrrolidinone RS—(NAME CHANGE) See *USP Baclofen Related Compound A RS*.

USP Chlorophyllin Copper Complex Sodium RS.

USP 4′-Chloro-3′-sulfamoyl-2-benzophenone Carboxylic Acid RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed. Store in a desiccator.

USP 4-Chloro-5-sulfamoylanthranilic Acid RS ($C_7H_7ClN_2O_4S$ ✧ 250.66)—Keep container tightly closed and protected from light. Do not dry before using.

USP Chloroprocaine Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Chloroquine Phosphate RS—Dry portion at 105° for 16 hours before using. Keep container tightly closed.

USP Chlorothiazide RS—Dry portion at 105° for 1 hour before using. Keep container tightly closed. Store in a cold place.

USP Chloroxylenol RS—Do not dry before using. Keep container tightly closed.

USP Chlorpheniramine Extended-Release Tablets RS (Drug Release Calibrator, Single Unit)—Use in conjunction with the ⟨724⟩ Drug Release Test. The label states the nominal weight of chlorpheniramine maleate in each tablet. Use only whole tablets. Remove any surface dust with a soft brush before using. Keep container tightly closed and avoid exposure to excessive humidity.

USP Chlorpheniramine Maleate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Chlorpromazine Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Chlorpropamide RS—Dry portion in vacuum at 60° for 2 hours before using. Keep container tightly closed.

USP (*E*)-Chlorprothixene RS—Keep container tightly closed and protected from light. Dry portion over silica gel to constant weight before using.

USP Chlortetracycline Hydrochloride RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a freezer.

USP Chlorthalidone RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Chlorzoxazone RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Chlorzoxazone Related Compound A RS [2-amino-4-chlorophenol] (C_6H_6ClNO ✧ 143.57)—Dry portion at 105° for 2 hours before using. Keep container tightly closed, protected from light, and store in a cold, dry place.

USP Cholecalciferol RS—Store in a cold place, protected from light. Allow it to attain room temperature before opening ampul. Use the material promptly and discard the unused portion.

USP Cholesteryl Caprylate RS ($C_{35}H_{60}O_2$ ✧ 512.86)—Dry portion in vacuum over silica gel for 4 hours before using. Keep container tightly closed and protected from light.

USP Cholestyramine Resin RS—Dry portion in a suitable vacuum drying tube over phosphorus pentoxide at a pressure not exceeding 50 mm of mercury at 70° for 16 hours before using. Keep container tightly closed.

USP Chorionic Gonadotropin RS—Store in a refrigerator and do not dry before using. Use a fresh ampul for each group of assays and discard any unused portion.

USP Chromium Picolinate RS.

USP Chymotrypsin RS—Keep container tightly closed, and store in a refrigerator. Allow contents to reach room temperature before opening, and do not dry before using. Protect from light. Determine loss on drying on a separate portion in a vacuum oven at 60° for 4 hours.

USP Ciclopirox Olamine RS—Dry a portion in vacuum to constant weight before using. Keep container tightly closed.

USP Cilastatin Ammonium Salt RS—Do not dry before using. Keep container tightly closed and store in a freezer under nitrogen.

USP Cimetidine RS—Dry portion at 110° for 2 hours before using. Keep container tightly closed. Protect from light and store at controlled room temperature.

USP Cimetidine Hydrochloride RS.

USP Cinoxacin RS—Dry portion in vacuum at 60° for 3 hours before using. Keep container tightly closed.

USP Cinoxate RS.

USP Ciprofloxacin RS—Do not dry before using. Keep container tightly closed. Protect from light.

USP Ciprofloxacin Ethylenediamine Analog RS [1-Cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-[(2-aminoethyl)amino]-3-quino-linecarboxylic acid hydrochloride] ($C_{15}H_{16}FN_3O_3$ ✧ 305.31)—Do not dry before using. Keep container tightly closed. Protect from light.

USP Ciprofloxacin Hydrochloride RS—This is the monohydrate form of ciprofloxacin hydrochloride. Do not dry; determine the water content titrimetrically when used for quantitative analysis. Keep container tightly closed. Protect from light.

USP Cisplatin RS—Do not dry before using. Keep container tightly closed. Protect from light.

USP Citric Acid RS.

USP Clarithromycin RS—Do not dry before using. Keep container tightly closed.

USP Clarithromycin Related Compound A RS [6,11-di-*O*-methylerythromycin A] ($C_{39}H_{71}NO_{13}$ ✧ 762.00)—Do not dry before using. Keep container tightly closed and store in a refrigerator.

USP Clavam-2-Carboxylate Potassium RS—Each vial holds one pellet containing 1 mg of clavam-2-carboxylate potassium dispersed in polyvinylpyrrolidone. *Standard solutions* may be stored in a refrigerator for one week. Keep container tightly closed and protected from light. Store in a freezer and a desiccator container.

USP Clavulanate Lithium RS—Do not dry before using. Keep container tightly closed and protected from light. Store in a cold place.

USP Clemastine Fumarate RS—Dry portion at 105° to constant weight before using. Keep container tightly closed. Protect from light. Store at a temperature not exceeding 25°C.

USP Clidinium Bromide RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Clindamycin Hydrochloride RS—Do not dry before using. This is the monohydrate form. Keep container tightly closed. Store in a cold place.

USP Clindamycin Palmitate Hydrochloride RS—Dry portion in vacuum at 60° for 16 hours before using. Keep container tightly closed. Store in a cold place.

USP Clindamycin Phosphate RS—Do not dry. Keep container tightly closed. Protect from light. Store in a cool, dry place.

USP Clioquinol RS—Dry portion over phosphorus pentoxide for 5 hours before using. Keep container tightly closed. Protect from light.

USP Clobetasol Propionate RS—Do not dry before using. Keep container tightly closed and protected from light.

USP Clobetasol Propionate Related Compound A RS—[9α-fluoro-11β-hydroxy-16β-methyl 3-oxo-androsta-1,4-diene-17(*R*)-spiro-2′-[4′-chloro-5′-ethylfuran-3′(2′H)-one]] ($C_{25}H_{30}ClFO_4$ ✧ 448.96).

USP Clocortolone Pivalate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Clofazimine RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed, protect from light, and store at room temperature.

USP Clofibrate RS—After opening ampul, store in a tight, light-resistant container. Do not dry before using.

USP Clomiphene Citrate RS—Do not dry; determine the water content titrimetrically at time of use. Keep container tightly closed.

USP Clomiphene Related Compound A RS [(*E,Z*)-2-[4-(1,2-diphenylethenyl)phenoxy]-*N,N*-diethylethanamine] ($C_{26}H_{29}NO$ ✧ 371.53)—Do not dry before using. Keep container tightly closed.

USP Clonazepam RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Clonazepam Related Compound A RS [3-amino-4-(2-chlorophenyl)-6-nitrocarbostyril] ($C_{15}H_{10}ClN_3O_3$ ✧ 315.72)—Do not dry. Keep container tightly closed and protected from light.

USP Clonazepam Related Compound B RS [2-amino-2′-chloro-5-nitrobenzophenone] ($C_{13}H_9ClN_2O_3$ ✧ 276.68)—Do not dry before using. Keep container tightly closed and protected from light.

USP Clonidine Hydrochloride RS—Dry portion at 105° to constant weight before using. Keep container tightly closed.

USP Clorazepate Dipotassium RS—Dry portion in vacuum at 60° for 1 hour before using. Store under nitrogen. Keep container tightly closed. Protect from light.

USP Clorsulon RS—Dry portion in vacuum at 100° for 4 hours before using. Keep container tightly closed.

USP Clotrimazole RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Clotrimazole Related Compound A RS [(o-chlorophenyl)diphenylmethanol] ($C_{19}H_{15}ClO$ ✧ 294.78)—Do not dry before using. Keep container tightly closed and protected from light.

USP Cloxacillin Benzathine RS—Do not dry before using. Keep container tightly closed. Protect from light.

USP Cloxacillin Sodium RS—Do not dry before using. This is the monohydrate form of cloxacillin sodium. Keep container tightly closed, protected from light, and store in a cold place.

USP Cocaine Hydrochloride RS—Dry portion over silica gel for 3 hours before using. Keep container tightly closed. Protect from light.

USP Codeine *N*-Oxide RS ($C_{18}H_{21}NO_4$ ✧ 315.37)—Store in a tightly closed container, protected from light. Do not dry before using.

USP Codeine Phosphate RS—This is the hemihydrate form of codeine phosphate. Dry portion at 105° for 18 hours before using. Keep container tightly closed. Protect from light.

USP Codeine Sulfate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Colchicine RS—Do not dry. For quantative use, determine the water content titrimetrically and correct for labeled solvent content at time of use. Keep container tightly closed. Protect from light. Store in a cold, dry place.

USP Colestipol Hydrochloride RS—Do not dry before using. Keep container tightly closed and store over a desiccant.

USP Colistimethate Sodium RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Colistin Sulfate RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Corticotropin RS—Do not dry before using. Store at a temperature of 0° or below.

USP Cortisone Acetate RS—Dry portion at 105° for 30 minutes before using. Keep container tightly closed.

USP Creatinine RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Cromolyn Sodium RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Crospovidone RS—Dry portion in vacuum at 105° for 1 hour before using. Keep container tightly closed. Store in a desiccator once removed from hermetic bag.

USP Crotamiton RS—Do not dry before using. After opening the ampul, store in a tightly closed container, protected from light in a desiccator.

USP Cyanocobalamin RS—Dry portion over silica gel for 4 hours before using. Keep container tightly closed and protected from light.

USP Cyclizine Hydrochloride RS—Dry portion at 120° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Cyclobenzaprine Hydrochloride RS—Dry portion at 105° to constant weight before using. Keep container tightly closed.

USP Alpha Cyclodextrin RS—Do not dry before using. Keep container tightly closed.

USP Beta Cyclodextrin RS—Do not dry before using. Determine the water content titrimetrically when used for quantitative analyses. Keep container tightly closed.

USP Cyclomethicone 4 RS—After opening, store in a tightly closed container.

USP Cyclomethicone 5 RS—After opening, store in a tightly closed container.

USP Cyclomethicone 6 RS—After opening, store in a tightly closed container.

USP Cyclopentolate Hydrochloride RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed. Store in a cold place.

USP Cyclophosphamide RS—Do not dry; determine the water content titrimetrically when used for quantitative analyses. Keep container tightly closed and store between 2° and 8°.

USP 2-Cyclopropylmethylamino-5-chlorobenzophenone RS—Do not dry before using. Keep container tightly closed. Protect from light.

USP Cycloserine RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed.

USP Cyclosporine RS—Dry portion before use in a capillary-stoppered bottle in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours. Keep container tightly closed, protected from light, and store in a cold place. Where calculations require a purity factor, use $P = 1000$.

USP Cyclosporine U RS [1′1-L-leucine-cyclosporine]—Do not dry before using. Keep container tightly closed, protected from light, and store in a cold place.

USP Cyproheptadine Hydrochloride RS—Dry portion at a pressure between 1 mm and 5 mm of mercury at 100° to constant weight before using. Keep container tightly closed.

USP L-Cysteine Hydrochloride RS—This is the monohydrate form of L-cysteine HCl. Dry portion at a pressure not exceeding 5 mm of mercury for 24 hours before using. Keep container tightly closed.

USP Cytarabine RS—Dry portion at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Dacarbazine RS—Keep container tightly closed and protected from light, and store in a refrigerator. Dry portion in vacuum over phosphorus pentoxide at 60° for 2 hours before using.

USP Dacarbazine Related Compound A RS [5-aminoimidazole-4-carboxamide hydrochloride]—Do not dry before using. Keep container tightly closed and protected from light, and store in a refrigerator.

USP Dacarbazine Related Compound B RS [2-azahypoxanthine]—This is the monohydrate form of 2-azahypoxanthine. Do not dry before using. Keep container tightly closed and protected from light, and store in a refrigerator.

USP Dactinomycin RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Danazol RS—Dry portion at a pressure not exceeding 5 mm of mercury at 60° to constant weight before using. Keep container tightly closed. Protect from light.

USP Danthron RS—Dry portion over silica gel for 4 hours before using. Keep container tightly closed.

USP Dapsone RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Daunorubicin Hydrochloride RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a freezer. Allow to equilibrate to room temperature before opening.

USP Decoquinate RS.

USP Deferoxamine Mesylate RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Dehydrocarteolol Hydrochloride RS [5-(3-*tert*-butylamino-2-hydroxy)-propoxycarbostyril hydrochloride] ($C_{16}H_{22}N_2O_3 \cdot HCl$ ✧ 326.82). Do not dry. Use as is. Keep container tightly closed and protected from light.

USP Dehydrocholic Acid RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Delta-3-Ceftazidime Isomer RS—Do not dry before using. Keep container tightly closed, protected from light, and store in a freezer.

USP Demecarium Bromide RS—Keep container tightly closed. Protect from light. Store in a cool place.

USP Demeclocycline Hydrochloride RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Denatonium Benzoate RS—This material is the monohydrate form of Denatonium Benzoate. Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Desacetyl Diltiazem Hydrochloride RS ($C_{20}H_{24}N_2O_3S \cdot HCl$ ✧ 408.95)—Dry portion at 105° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Desflurane RS.

USP Desflurane Related Compound A RS [bis-(1,2,2,2-tetrafluoroethyl)ether] ($C_4H_2F_8O$ ✧ 218.05).

USP Desipramine Hydrochloride RS—Dry portion in vacuum at 105° for 2 hours before using. Keep container tightly closed.

USP Deslanoside RS—Dry portion in vacuum over phosphorus pentoxide to constant weight before using. Keep container tightly closed. Protect from light. This material is hygroscopic.

USP Desoximetasone RS—Dry portion at 105° to constant weight before using. Keep container tightly closed.

USP Desoxycorticosterone Acetate RS—Dry portion in vacuum over silica gel for 4 hours before using. Keep container tightly closed.

USP Desoxycorticosterone Pivalate RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed and protected from light.

USP Dexamethasone RS—Keep container tightly closed. Dry portion at 105° for 3 hours before using.

USP Dexamethasone Acetate RS—Dry portion in vacuum at 105° for 3 hours before using. Keep container tightly closed.

USP Dexamethasone Phosphate RS—This material is Dexamethasone Phosphate Acid. Dry portion at a pressure of 5 mm of mercury at 40° to constant weight before using. Keep container tightly closed.

USP Dexbrompheniramine Maleate RS—Dry portion at 65° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Dexchlorpheniramine Maleate RS—Dry portion at 65° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Dexpanthenol RS—Do not dry; determine the water content titrimetrically before using for quantitative analyses. Keep container tightly closed and protected from moisture.

USP Dextran Vo Marker RS.

USP Dextran 40 RS.

USP Dextran 40 System Suitability RS.

USP Dextran 70 RS.

USP Dextran 70 System Suitability RS.

USP Dextran Calibration RS.

USP Dextroamphetamine Sulfate RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Dextromethorphan RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Dextromethorphan Hydrobromide RS—Do not dry; determine the water content titrimetrically at time of use. Keep container tightly closed.

USP Dextrose RS—This is the anhydrous form of dextrose. Dry portion at 105° for 16 hours before using. Keep container tightly closed.

USP Diacetylated Monoglycerides RS—Keep container tightly closed. Protect from light.

USP Diacetylfluorescein RS ($C_{24}H_{16}O_7$ ✧ 416.39)—Keep container tightly closed. Dry portion at 105° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Diatrizoic Acid RS—This material is the hydrous form of Diatrizoic Acid. Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Diatrizoic Acid Related Compound A RS [3-acetamido-5-amino-2,4,6-triiodobenzoic acid] ($C_9H_7I_3N_2O_3$ ✧ 571.88)—Dry por-

tion at 105° for 4 hours before using. Keep container tightly closed and protected from light.

USP Diazepam RS—Dry portion in vacuum over phosphorus pentoxide at 60° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Diazepam Related Compound A RS [2-methylamino-5-chlorobenzophenone] ($C_{14}H_{12}ClNO$ ✧ 245.71)—Do not dry before using. Keep container tightly closed. Protect from light.

USP Diazoxide RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Dibucaine Hydrochloride RS—Dry portion at 80° for 5 hours before using. Keep container tightly closed. Protect from light.

USP Dichloralphenazone RS.

USP Dichlorphenamide RS—Dry portion at a pressure not exceeding 5 mm of mercury at 100° to constant weight before using. Keep container tightly closed.

USP Diclofenac Sodium RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed and protected from light.

USP Diclofenac Related Compound A RS [*N*-(2,6-dichlorophenyl)indolin-2-one] ($C_{14}H_9Cl_2NO$ ✧ 278.14)—Do not dry. Keep container tightly closed and protected from light.

USP Dicloxacillin Sodium RS—Do not dry before using. Determine the water content titrimetrically at the time of use. Keep container tightly closed. Protect from light. Store in a cold place.

USP Dicyclomine Hydrochloride RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Dienestrol RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Diethylcarbamazine Citrate RS—Do not dry before using. Keep container tightly closed.

USP Diethylene Glycol Monoethyl Ether RS.

USP Diethyl Phthalate RS—Do not dry before using. Keep container tightly closed.

USP Diethylpropion Hydrochloride RS—Dry portion over silica gel for 4 hours before using. Keep container tightly closed. Protect from light. Use within 2 years of purchase.

USP Diethylstilbestrol RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Diethylstilbestrol Diphosphate RS.

USP Diethyltoluamide RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed.

USP Diflorasone Diacetate RS—Dry portion in vacuum at 60° and at a pressure not exceeding 5 mm of mercury for 16 hours before using. Keep container tightly closed.

USP Diflunisal RS—Dry portion in vacuum at 60° and at a pressure not exceeding 5 mm of mercury for 4 hours before using. Keep container tightly closed.

USP Digitalis RS—Do not dry before using. Keep container tightly closed and store in a cool place.

USP Digitoxin RS—Dry portion in vacuum at 105° for 1 hour before using. Keep container tightly closed.

USP Digoxin RS—Dry portion in vacuum at 105° for 1 hour before using. Keep container tightly closed.

USP Dihydrocapsaicin RS—Dry portion over fresh silica gel for 24 hours before using. Keep container tightly closed and protected from light.

USP Dihydrocodeine Bitartrate RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP 17α-Dihydroequilin RS ($C_{18}H_{22}O_2$ ✧ 270.37)—Do not dry before using. Store in a cold place, protected from light. Store the contents of the opened ampul in a tightly closed container, under nitrogen, protected from light, in a cold place.

USP Dihydroergotamine Mesylate RS—Dry portion in vacuum at 100° to constant weight before using. Keep container tightly closed. Protect from light.

USP Dihydrostreptomycin Sulfate RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 100° for 4 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Dihydrotachysterol RS—Do not dry. Store in a cold place, protected from light. Allow to reach room temperature before opening ampuls and use the material promptly.

USP Dihydroxyacetone RS.

USP Diltiazem Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Dimenhydrinate RS—Dry portion in vacuum over phosphorus pentoxide for 24 hours before using. Keep container tightly closed. Protect from light.

USP α-*d*-4-Dimethylamino-1,2-diphenyl-3-methyl-2-butanol Hydrochloride RS ($C_{19}H_{25}NO \cdot HCl$ ✧ 319.87)—Keep container tightly closed. Do not dry before using. Protect from light.

USP Dimethyl Sulfoxide RS—Do not dry. After opening, store in a tightly closed, light-resistant container. This material is extremely hygroscopic.

USP Dioxybenzone RS—Dry portion at 40° and 5 mm of Hg for 2 hours prior to use. Store tightly closed, protected from light, in a cool place.

USP Diphenhydramine Citrate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Diphenhydramine Hydrochloride RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Diphenoxylate Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Dipivefrin Hydrochloride RS—Dry portion in a suitable vacuum drying tube over phosphorus pentoxide at 60° for 6 hours before using. Keep container tightly closed.

USP Dipyridamole RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Dirithromycin RS.

USP Disopyramide Phosphate RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed. Protect from light.

USP 2,4-Disulfamyl-5-trifluoromethylaniline RS ($C_7H_8F_3N_3O_4S_2$ ✧ 319.29)—Keep container tightly closed and protected from light. Dry portion in vacuum over silica gel for 4 hours before using.

USP Disulfiram RS—Do not dry before using. Keep container tightly closed. Protect from light.

USP Dobutamine Hydrochloride RS—Determine the water content titrimetrically at the time of use for quantitative analyses. Keep container tightly closed.

USP Docusate Calcium RS—Do not dry; determine the water content titrimetrically at the time of use. Keep container tightly closed. This material is hygroscopic.

USP Docusate Potassium RS—Do not dry; determine the water content at the time of use. Keep container tightly closed. Store in dry place. This material is hygroscopic.

USP Docusate Sodium RS—Do not dry; determine the water content titrimetrically at time of use. Keep container tightly closed. Store in a desiccator.

USP Dopamine Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Doxapram Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Doxepin Hydrochloride RS—Dry portion in vacuum at 60° for 3 hours before using. Keep container tightly closed.

USP Doxorubicin Hydrochloride RS—Do not dry before using. Store in a cold place. Protect from light and allow to attain room temperature before opening.

USP Doxycycline Hyclate RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Doxylamine Succinate RS—Dry portion in vacuum over phosphorus pentoxide for 5 hours before using. Keep container tightly closed. Protect from light.

USP Droperidol RS—Dry portion in vacuum at 70° for 4 hours before using. Store under nitrogen. Keep container tightly closed. Protect from light. Store in a cool place.

USP Dyclonine Hydrochloride RS—Dry portion at 105° for 1 hour before using. Keep container tightly closed. Protect from light. Store in a cool place.

USP Dydrogesterone RS—Dry portion in vacuum at 50° for 1 hour before using. Keep container tightly closed.

USP Dyphylline RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Econazole Nitrate RS—Dry portion at 105° to constant weight before using. Keep container tightly closed. Protect from light.

USP Edetate Calcium Disodium RS—Do not dry before using. Keep container tightly closed.

USP Edetate Disodium RS—Do not dry. Keep container tightly closed.

USP Edetic Acid RS—Do not dry before using. Keep container tightly closed.

USP Edrophonium Chloride RS—Dry portion in vacuum over phosphorus pentoxide for 3 hours before using. Keep container tightly closed.

USP Emetine Hydrochloride RS—Do not dry before quantitative use. Determine volatiles content by heating a separate portion at 105° to constant weight to determine correction factor for quantitative use. Keep container tightly closed and protected from light.

USP Enalapril Maleate RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 2 hours before using. Keep container tightly closed.

USP Enalaprilat RS—Do not dry; determine the water content titrimetrically at time of use for quantitative analyses. Sonicate as necessary to effect solution. Keep container tightly closed.

USP Endotoxin RS—[*Caution—Contents are pyrogenic. Handle vials and their contents with extreme care to avoid contamination.*] Reconstitute entire contents; use solution within 14 days. Store unopened vial and solution in a refrigerator.

USP Enflurane RS—Do not dry. After opening ampul, store in a tightly closed, light-resistant container. Avoid exposure to excessive heat.

USP Ephedrine Sulfate RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP 4-Epianhydrotetracycline Hydrochloride RS—Dry portion in vacuum at 60° for 3 hours before using. The dried material is extremely hygroscopic. Keep container tightly closed. Protect from light. Store in a cold, dry place.

USP Epilactose RS—Dry portion at 70° for 4 hours before using. Keep container tightly closed.

USP Epinephrine Bitartrate RS—Dry portion in vacuum over silica gel for 3 hours before using. Keep container tightly closed. Protect from light.

USP Equilin RS—Do not dry before using. Store tightly closed. Keep container tightly closed. Protect from light. Store in a cold place.

USP Ergocalciferol RS—Store in a cold place, protected from light. Allow it to attain room temperature before opening ampul. Use the material promptly and discard the unused portion.

USP Ergoloid Mesylates RS—Do not dry; determine the water content titrimetrically at time of use. Keep container tightly closed. Protect from light.

USP Ergonovine Maleate RS—Dry portion in vacuum at 80° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Ergosterol RS ($C_{28}H_{44}O$ ✧ 396.66)—Do not dry before using. Keep container tightly closed, keep protected from light and air, and store in a refrigerator. Allow to equilibrate to room temperature before opening container.

USP Ergotamine Tartrate RS—Dry portion in vacuum at 60° for 4 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Ergotaminine RS—Do not dry; use as is. Keep container tightly closed. Protect from light. Store in a cold place.

USP Erythromycin RS—Do not dry before using, unless otherwise specified. Allow to equilibrate to ambient temperature before opening ampul. Hygroscopic. After opening, weigh portions immediately, avoiding excessive humidity, and discard material remaining. Store unopened material in a freezer.

USP Erythromycin B RS—Do not dry before using. Keep container tightly closed and protected from light, and store in a freezer.

USP Erythromycin C RS—Do not dry before using. Keep container tightly closed and protected from light, and store in a freezer.

USP Erythromycin Related Compound N RS [*N*-Demethylerythromycin A] ($C_{36}H_{65}NO_{13}$ ✧ 719.91)—Do not dry before using. Keep container tightly closed, protected from light, and store in a freezer.

USP Erythromycin Estolate RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Erythromycin Ethylsuccinate RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Erythromycin Gluceptate RS—Do not dry before using. Keep container tightly closed. Store in a freezer.

USP Erythromycin Lactobionate RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 3 hours before using. Keep container tightly closed. Store in a cold place.

USP Erythromycin Stearate RS—Do not dry before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Estradiol RS—Do not dry; this is the hemihydrate form of estradiol. Determine the water content titrimetrically at time of use. Keep container tightly closed. Protect from light.

USP Estradiol Cypionate RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Estradiol Valerate RS—Do not dry; use as is. Keep container tightly closed. Protect from light. Store in a refrigerator.

USP Estriol RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Estrone RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Estropipate RS—Dry portion at 105° for 1 hour before using. Keep container tightly closed.

USP Ethacrynic Acid RS—Dry portion at a pressure not exceeding 5 mm of mercury at 60° for 2 hours before using. Keep container tightly closed. Store in a cool place.

USP Ethambutol Hydrochloride RS—Dry portion at 105° for 2 hours before using. Keep container tightly closed.

USP Ethchlorvynol RS.

USP Ethinyl Estradiol RS—Dry portion in vacuum over silica gel for 4 hours before using. Keep container tightly closed. Protect from light.

USP Ethionamide RS—Do not dry before using. Keep container tightly closed.

USP Ethopabate RS—Dry portion in vacuum at 60° for 2 hours before using. Keep container tightly closed and store in a cool, dry place.

USP Ethopabate Related Compound A RS [Methyl-4-acetamido-2-hydroxybenzoate] ($C_{10}H_{11}NO_4$ ✧ 209.20).

USP Ethosuximide RS—Do not dry. Keep container tightly closed.

USP Ethotoin RS—Do not dry before using. Keep container tightly closed.

USP Ethylcellulose RS—Do not dry before using. Keep container tightly closed.

USP Ethylparaben RS—Dry portion over silica gel for 5 hours before using. Keep container tightly closed.

USP Ethyl Vanillin RS—Dry portion over phosphorus pentoxide for 4 hours before using. Keep container tightly closed. Protect from light.

USP Ethynodiol Diacetate RS—Do not dry; use as is. Keep container tightly closed. Protect from light.

USP Etidronate Disodium RS—Do not dry before using. Keep container tightly closed and store in a cool, dry place.

USP Etidronic Acid Monohydrate RS ($C_2H_8O_7P_2 \cdot H_2O$ ✧ 224.04)—Do not dry before using. Keep container tightly closed and store in a cool, dry place.

USP Etodolac RS—Do not dry before using; determine the water content titrimetrically at the time of use for quantitative analyses. Keep container tightly closed.

USP Etodolac Related Compound A RS [(±)-8-ethyl-1-methyl-1,3,4,9-tetrahydropyrano [3,4-*b*]-indole-1-acetic acid.] ($C_{16}H_{19}NO_3$ ✧ 273.33)—Do not dry before using. Keep container tightly closed.

USP Etoposide RS—Do not dry before using. Determine the water content titrimetrically at the time of use. Keep container tightly closed and protected from light.

USP Etoposide Related Compound A RS {4′-Demethylepipodophyllotoxin 9-[4,6-*O*-(*R*)-ethylidene-α-D-glucopyranoside]} ($C_{29}H_{32}O_{13}$ ✧ 588.56)—Do not dry before using. Keep container tightly closed and protected from light.

USP Eucatropine Hydrochloride RS—Dry portion over silica gel for 4 hours before using. Keep container tightly closed. Protect from light.

USP Factor X_a RS.

USP Famotidine RS—Dry portion at a pressure between 1 and 5 mm of mercury at 80° for 5 hours before using. Keep container tightly closed. Protect from light.

USP Fenoprofen Calcium RS—This is the dihydrate form of fenoprofen calcium. Do not dry before using; determine the water content titrimetrically at the time of use for quantitative analyses. Keep container tightly closed.

USP Fenoprofen Sodium RS—This is the dihydrate form of fenoprofen sodium. Do not dry before using; determine the water content titrimetrically at the time of use for quantitative analyses. Keep container tightly closed.

USP Fentanyl Citrate RS—Dry portion in vacuum at 60° for 2 hours before using. Keep container tightly closed. Protect from light.

USP Flecainide Acetate RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury at 60° for 2 hours before using. Keep container tightly closed and store in a refrigerator.

USP Flecainide Related Compound A RS [*N*-(2-pyridylmethyl)-2,5-bis(2,2,2-trifluoroethoxy)benzamide] ($C_{17}H_{14}F_6N_2O_3$ ✧ 408.30).

USP Floxuridine RS—Dry portion in vacuum over silica gel at 60° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Flucytosine RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Fludeoxyglucose RS.

USP Fludrocortisone Acetate RS—Dry portion in vacuum at 100° for 2 hours over magnesium perchlorate before using. Keep container tightly closed. Protect from light.

USP Flumethasone Pivalate RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Flunisolide RS—Dry portion in vacuum at 60° for 3 hours before using. This dried standard is the hemihydrate of flunisolide. Keep container tightly closed.

USP Flunixin Meglumine RS—Dry portion at 105° for 4 hours before using. Keep container tightly closed.

USP Fluocinonide RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed.

USP Fluocinolone Acetonide RS—This material is the hydrous form of fluocinolone acetonide. Dry portion in vacuum at 105° for 3 hours before using. Keep container tightly closed.

USP Fluorescein RS—Dry portion over silica gel for 16 hours before using. Keep container tightly closed.

USP Fluorometholone RS—Dry portion in vacuum at 60° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Fluorometholone Acetate RS—Dry portion in vacuum at 60° for 3 hours before using. Keep container tightly closed.

USP Fluoroquinolonic Acid RS—Do not dry before using. Keep container tightly closed. Protect from light.

USP Fluorouracil RS—Dry portion in vacuum over phosphorus pentoxide at 80° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Fluoxetine Hydrochloride RS—Do not dry before using. Keep container tightly closed and protected from light.

USP Fluoxetine Related Compound A RS [*N*-methyl-3-phenyl-3-[(α,α,α- (trifluoro-*m*-tolyl)oxy]propylamine hydrochloride] ($C_{17}H_{18}F_3NO \cdot HCl$ ✧ 345.79)—Do not dry before using. Keep container tightly closed and protected from light.

USP Fluoxetine Related Compound B RS [*N*-methyl-3-phenylpropylamine] ($C_{10}H_{15}N$) ✧ 149.24)—Do not dry before using. Keep container tightly closed at room temperature and protected form light.

USP Fluoxymesterone RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Fluphenazine Decanoate Dihydrochloride RS—Do not dry; determine the water content titrimetrically at time of use. Keep container tightly closed and protected from light.

USP Fluphenazine Enanthate Dihydrochloride RS ($C_{29}H_{38}F_3N_3O_2S \cdot 2HCl$ ✧ 622.63)—Do not dry. Keep container tightly closed and protected from light.

USP Fluphenazine Hydrochloride RS—Dry portion at 65° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Flurandrenolide RS—Dry portion in vacuum at 105° for 4 hours before using. Keep container tightly closed. Protect from light. Store in a cold place.

USP Flurazepam Hydrochloride RS—Dry portion over silica gel for 4 hours before using. Keep container tightly closed. Protect from light and store in a desiccator.

USP Flurazepam Related Compound C RS [5-chloro-2-(2-diethylaminoethyl(amino)-2′-fluorobenzophenone hydrochloride] ($C_{19}H_{22}ClFN_2O \cdot HCl$ ✧ 385.31)—Dry portion at 105° for 4 hours before using. Keep container tightly closed and protected from light.

USP Flurazepam Related Compound F RS [7-chloro-5-(2-fluorophenyl)-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one] ($C_{15}H_{10}ClFN_2O$ ✧ 288.71)—Keep container tightly closed and protected from light. Dry portion in vacuum over silica gel at 60° for 4 hours before using.

USP Flurbiprofen RS—Dry portion in vacuum at a pressure not exceeding 5 mm of mercury over phosphorus pentoxide in a suitable drying tube at 55° for 2 hours before using. Keep container tightly closed.

USP Flurbiprofen Related Compound A RS [2-(4-biphenyl) propionic acid] ($C_{15}H_{14}O_2$ ✧ 226.28)—Do not dry before using. Keep container tightly closed.

USP Flurbiprofen Sodium RS—Dry portion in vacuum at a pressure not exceeding 1 mm of mercury over phosphorus pentoxide in a suitable drying tube at 60° for 18 hours before using. Keep container tightly closed.

USP Flutamide RS—Dry portion in vacuum at 60° for 3 hours before using. Keep container tightly closed and protected from light.

USP Folic Acid RS—Do not dry; determine the water content at time of use. Keep container tightly closed. Protect from light.

USP Folic Acid Related Compound A RS {calcium formyltetrahydrofolate}—Do not dry. Keep container tightly closed and protected from light.

USP 4-Formylbenzenesulfonamide RS—Dry portion in vacuum at 60° for 4 hours before using. Preserve in tight, light-resistant containers.

USP 10-Formylfolic Acid RS—Do not dry. Keep container tightly closed, protected from light, and store in a refrigerator.

USP Fructose RS—Dry portion in vacuum at 70° for 4 hours before using. Keep container tightly closed. Protect from light.

USP Fumaric Acid RS—Do not dry before using. Keep container tightly closed.

USP Furazolidone RS—Dry portion at 100° for 1 hour before using. Keep container tightly closed. Protect from light.

USP Furosemide RS—Dry portion at 105° for 3 hours before using. Keep container tightly closed. Protect from light.

USP Gadopentetate Monomeglumine RS.

USP Galactose RS—Do not dry. Keep container tightly closed.

USP Gallamine Triethiodide RS—Dry portion at 100° for 4 hours before using. Keep container tightly closed. Protect from light. Store in a cool place.