(95) or in diethyl ether. To polyvinyl alcohol II add water, and heat: A clear, viscous solution is obtained. It is hygroscopic.

Viscosity: 4.6 - 5.4 mm^2/s. Weigh 4.000 g of polyvinyl alcohol II, previously dried, add 95 mL of water, allow to stand for 30 minutes, and dissolve by stirring on a water bath between 60°C and 80°C for 2 hours. After cooling, add water to make 100.0 g, and mix. Allow to stand still to remove bubbles, and perform the test at 20 ± 0.1°C as directed in Method 1 under the Viscosity Determination.

pH—The pH of a solution of polyvinyl alcohol II (1 in 25) is between 5.0 and 8.0.

Clarity and color of solution—To 1.0 g of polyvinyl alcohol II add 20 mL of water, disperse by well stirring, heat on a water bath for 2 hours, and cool: the solution is clear and colorless.

Saponification value: 86.5 - 89.5 mol%. Weigh accurately about 2.0 g of polyvinyl alcohol II, previously dried, transfer to a glass-stoppered, conical flask, add 100 mL of water, and warm while stirring for 2 hours. After cooling, add exactly 25 mL of 0.5 mol/L sodium hydroxide VS, stopper tightly, and allow to stand for 2 hours. Then add exactly 30 mL of 0.25 mol/L sulfuric acid VS, shake well, and titrate with 0.5 mol/L sodium hydroxide VS (indicator: 3 drops of phenolphthalein TS). Perform a blank determination in the same manner, and make any necessary correction.

$$\text{Saponification value (mol\%)} = 100 - \frac{44.05A}{60.05 - 0.42A}$$

$$A = \frac{3.0025 \times (a - b)f}{\text{amount (g) of the sample}}$$

a: Volume (mL) of 0.5 mol/L sodium hydroxide VS consumed in the test
b: Volume (mL) of 0.5 mol/L sodium hydroxide VS consumed in the blank test
f: Molarity factor of 0.5 mol/L sodium hydroxide VS

Polyvinyl alcohol TS Weigh exactly 0.50 g of polyvinyl alcohol, and add water to make exactly 100 mL.

Porous acrylonitrile-divinylbenzene copolymer for gas chromatography (pore diameter: 0.06 - 0.08 μm, 100 - 200 m^2/g) A porous acrylonitrile-divinylbenzene copolymer prepared for gas chromatography.

Porous ethylvinylbenzene-divinylbenzene copolymer for gas chromatography (average pore diameter: 0.0075 μm, 500 - 600 m^2/g) A porous ethylvinylbenzene-divinylbenzene copolymer prepared for gas chromatography. The average pore diameter is 0.0075 μm, and surface area is 500 to 600 m^2 per g.

Porous polymer beads for gas chromatography Prepared for gas chromatography.

Porous silica gel for liquid chromatography A porous silica gel prepared for liquid chromatography.

Porous styrene-divinylbenzene copolymer for gas chromatography (average pore diameter: 0.0085 μm, 300 - 400 m^2/g) A porous styrene-divinylbenzene copolymer prepared for gas chromatography. The average pore diameter is 0.0085 μm, and surface area is 300 to 400 m^2/g.

Potassium acetate $CH_3COO.K$ [K 8363, Special class]

Potassium acetate TS Dissolve 10 g of potassium acetate in water to make 100 mL (1 mol/L).

Potassium aluminum sulfate See aluminum potassium sulfate 12-water.

Potassium bicarbonate See potassium hydrogen carbonate.

Potassium biphthalate See potassium hydrogen phthalate.

Potassium biphthalate buffer solution, pH 3.5 See potassium hydrogen phthalate buffer solution, pH 3.5.

Potassium biphthalate buffer solution, pH 4.6 See potassium hydrogen phthalate buffer solution, pH 4.6.

Potassium biphthalate buffer solution, pH 5.6 See potassium hydrogen phthalate buffer solution, pH 5.6.

Potassium biphthalate for pH determination See potassium hydrogen phthalate for pH determination.

Potassium biphthalate (standard reagent) See potassium hydrogen phthalate (standard reagent).

0.2 mol/L Potassium biphthalate TS for buffer solution See 0.2 mol/L potassium hydrogen phthalate TS for buffer solution.

Potassium bisulfate See potassium hydrogen sulfate.

Potassium bromate $KBrO_3$ [K 8530, Special class]

Potassium bromide KBr [K 8506, Special class]

Potassium bromide for infrared spectrophotometry Crush homocrystals of potassium bromide or potassium bromide, collect a powder passed through a No. 200 (75 μm) sieve, and dry at 120°C for 10 hours or at 500°C for 5 hours. Prepare tablets with this powder, and determine the infrared absorption spectrum: any abnormal absorption does not appear.

Potassium carbonate K_2CO_3 [K 8615, Special class]

Potassium carbonate, anhydrous See potassium carbonate.

Potassium carbonate-sodium carbonate TS Dissolve 1.7 g of potassium carbonate and 1.3 g of anhydrous sodium carbonate in water to make 100 mL.

Potassium chlorate $KClO_3$ [K 8207, Special class]

Potassium chloride KCl [K 8121, Special class]

Potassium chloride for infrared spectrophotometry Crush homocrystals of potassium chloride or potassium chloride (Special class), collect the powder passed through a No. 200 (75 μm) sieve, and dry at 120°C for 10 hours or at 500°C for 5 hours. Prepare tablets with this powder, and determine the infrared absorption spectrum: any abnormal absorption does not appear.

Potassium chloride-hydrochloric acid buffer solution To 250 mL of a solution of potassium chloride (3 in 20) add 53 mL of 2 mol/L hydrochloric acid TS and water to make 1000 mL.

Potassium chloride TS, acidic Dissolve 250 g of potassi-

um chloride in water to make 1000 mL, and add 8.5 mL of hydrochloric acid.

0.2 mol/L Potassium chloride TS Dissolve 14.9 g of potassium chloride in water to make 1000 mL. Prepare before use.

Potassium chromate K_2CrO_4 [K 8312, Special class]

Potassium chromate TS Dissolve 10 g of potassium chromate in water to make 100 mL.

Potassium cyanide KCN [K 8443, Special class]

Potassium cyanide TS Dissolve 1 g of potassium cyanide in water to make 10 mL. Prepare before use.

Potassium dichromate $K_2Cr_2O_7$ [K 8517, Special class]

Potassium dichromate (standard reagent) $K_2Cr_2O_7$ [K 8005, Standard reagent for volumetric analysis]

Potassium dichromate-sulfuric acid TS Dissolve 0.5 g of potassium dichromate in diluted sulfuric acid (1 in 5) to make 100 mL.

Potassium dichromate TS Dissolve 7.5 g of potassium dichromate in water to make 100 mL.

Potassium dihydrogenphosphate KH_2PO_4 [K 9007, Special class]

Potassium dihydrogenphosphate for pH determination KH_2PO_4 [K 9007, for pH determination]

0.02 mol/L Potassium dihydrogenphosphate TS Dissolve 2.72 g of potassium dihydrogenphosphate in water to make 1000 mL.

0.05 mol/L Potassium dihydrogenphosphate TS Dissolve 6.80 g of potassium dihydrogenphosphate in water to make 1000 mL.

0.05 mol/L Potassium dihydrogenphosphate, pH 3.0 Adjust the pH of 0.05 mol/L potassium dihydrogenphosphate TS to 3.0 with phosphoric acid.

0.05 mol/L Potassium dihydrogenphosphate TS, pH 4.7 Dissolve 6.80 g of potassium dihydrogenphosphate in 900 mL of water, adjust the pH to exactly 4.7 with dilute sodium hydrochloride TS, and add water to make 1000 mL.

0.1 mol/L Potassium dihydrogenphosphate TS Dissolve 13.61 g of potassium dihydrogenphosphate in water to make 1000 mL.

0.2 mol/L Potassium dihydrogenphosphate TS Dissolve 27.22 g of potassium dihydrogenphosphate in water to make 1000 mL.

0.2 mol/L Potassium dihydrogenphosphate TS for buffer solution Dissolve 27.218 g of potassium dihydrogenphosphate for pH determination in water to make 1000 mL.

Potassium disulfate $K_2S_2O_7$ [K 8783, Potassium Disulfate, Special class]

Potassium ferricyanide See potassium hexacyanoferrate (III).

Potassium ferricyanide TS See potassium hexacyanoferrate (III) TS.

Potassium ferricyanide TS, alkaline See potassium hexacyanoferrate (III) TS, alkaline.

Potassium ferrocyanide See potassium hexacyanoferrate (II) trihydrate.

Potassium ferrocyanide TS See potassium hexacyanoferrate (II) TS.

Potassium guaiacolsulfonate [Same as the namesake monograph]

Potassium hexacyanoferrate (II) trihydrate $K_4Fe(CN)_6.3H_2O$ [K 8802, Special class]

Potassium hexacyanoferrate (II) TS Dissolve 1 g of potassium hexacyanoferrate (II) trihydrate in water to make 10 mL (¼ mol/L). Prepare before use.

Potassium hexacyanoferrate (III) $K_3Fe(CN)_6$ [K 8801, Special class]

Potassium hexacyanoferrate (III) TS Dissolve 1 g of potassium hexacyanoferrate (III) in water to make 10 mL (⅓ mol/L). Prepare before use.

Potassium hexacyanoferrate (III) TS, alkaline Dissolve 1.65 g of potassium hexacyanoferrate (III) and 10.6 g of anhydrous sodium carbonate in water to make 100 mL. Preserve in light-resistant containers.

Potassium hexahydroxoantimanate (V) $K_2H_2Sb_2O_7.4H_2O$ [K 8778: 1980, First class]

Potassium hexahydroxoantimanate (V) TS To 2 g of potassium hexahydroxoantimanate (V) add 100 mL of water. Boil the solution for about 5 minutes, cool quickly, add 10 mL of a solution of potassium hydroxide (3 in 20), allow to stand for 1 day, and filter.

Potassium hydrogen carbonate $KHCO_3$ [K 8621, Special class]

Potassium hydrogen phthalate $C_6H_4(COOK)(COOH)$ [K 8809, Special class]

Potassium hydrogen phthalate buffer solution, pH 3.5 Dilute 50 mL of 0.2 mol/L potassium hydrogen phthalate TS for buffer solution and 7.97 mL of 0.2 mol/L hydrochloric acid VS with water to make 200 mL.

Potassium hydrogen phthalate buffer solution, pH 4.6 Dilute 50 mL of 0.2 mol/L potassium hydrogen phthalate TS for buffer solution and 12.0 mL of 0.2 mol/L sodium hydroxide VS with water to make 200 mL.

0.3 mol/L Potassium hydrogen phthalate buffer solution, pH 4.6 Dissolve 61.26 g of potassium hydrogen phthalate in about 800 mL of water, adjust the pH to 4.6 with sodium hydroxide TS, and add water to make 1000 mL.

Potassium hydrogen phthalate buffer solution, pH 5.6 Dilute 50 mL of 0.2 mol/L potassium hydrogen phthalate TS for buffer solution and 39.7 mL of 0.2 mol/L sodium hydroxide VS with water to make 200 mL.

Potassium hydrogen phthalate for pH determination $C_6H_4(COOK)(COOH)$ [K 8809, For pH determination]

Potassium hydrogen phthalate (standard reagent) $C_6H_4(COOK)(COOH)$ [K 8005, Standard reagent for volumetric analysis]

0.2 mol/L Potassium hydrogen phthalate TS for buffer solution Dissolve 40.843 g of potassium hydrogen phthalate for pH determination in water to make 1000 mL.

Potassium hydrogen sulfate $KHSO_4$ [K 8972, Special class]

Potassium hydroxide KOH [K 8574, Special class]

Potassium hydroxide-ethanol TS Dissolve 10 g of potassium hydroxide in ethanol (95) to make 100 mL. Prepare before use.

0.1 mol/L Potassium hydroxide-ethanol TS To 1 mL of dilute potassium hydroxide-ethanol TS add ethanol (95) to make 5 mL. Prepare before use.

Potassium hydroxide-ethanol TS, dilute Dissolve 35 g of potassium hydroxide in 20 mL of water, and add ethanol (95) to make 1000 mL (0.5 mol/L). Preserve in tightly stoppered bottles.

Potassium hydroxide TS Dissolve 6.5 g of potassium hydroxide in water to make 100 mL (1 mol/L). Preserve in polyethylene bottles.

0.02 mol/L Potassium hydroxide TS Dilute 2 mL of potassium hydroxide TS with water to make 100 mL. Prepare before use.

0.05 mol/L Potassium hydroxide TS Dilute 5 mL of potassium hydroxide TS with water to make 100 mL. Prepare before use.

8 mol/L Potassium hydroxide TS Dissolve 52 g of potassium hydroxide in water to make 100 mL. Preserve in polyethylene bottles.

Potassium iodate KIO_3 [K 8922, Special class]

Potassium iodate (standard reagent) KIO_3 [K 8005, Standard reagent for volumetric analysis]

Potassium iodate-starch paper Impregnate filter paper with a mixture of equivalent volumes of a solution of potassium iodate (1 in 20) and freshly prepared starch TS, and dry in a clean room.

Storage—Preserve in a glass-stoppered bottle, protected from light and moisture.

Potassium iodide KI [K 8913, Special class]

Potassium iodide for assay [Same as the monograph Potassium Iodide]

Potassium iodide-starch paper Impregnate filter paper with freshly prepared potassium iodide-starch TS, and dry in a clean room. Store in a glass-stoppered bottle, protected from light and moisture.

Potassium iodide-starch TS Dissolve 0.5 g of potassium iodide in 100 mL of freshly prepared starch TS. Prepare before use.

Potassium iodide TS Dissolve 16.5 g of potassium iodide in water to make 100 mL. Preserve in light-resistant containers. Prepare before use (1 mol/L).

Potassium iodide TS, concentrated Dissolve 30 g of potassium iodide in 70 mL of water. Prepare before use.

Storage—Preserve in light-resistant containers.

Potassium iodide-zinc sulfate TS Dissolve 5 g of potassium iodide, 10 g of zinc sulfate, and 50 g of sodium chloride in water to make 200 mL.

Potassium methanesulfonate CH_3SO_3K White crystals or crystalline powder.

Purity Clarity and color of solution—Dissolve 1.0 g of potassium methanesulfonate in 20 mL of water: the solution is transparent and colorless.

Content: not less than 98.0%. Assay—Dissolve about 0.1 g of potassium methanesulfonate, accurately weighed, in 10 mL of acetic acid (100), add 20 mL of acetic anhydride, and titrate with 0.1 mol/L perchloric acid VS (potentiometric titration). Perform a blank determination, and make any necessary correction.

Each mL of 0.1 mol/L perchloric acid VS
= 13.420 mg of CH_3SO_3K

Potassium naphthoquinone sulfonate See potassium 1,2-naphthoquinone-4-sulfonate.

Potassium 1,2-naphthoquinone-4-sulfonate $C_{10}H_5O_2SO_3K$ [K 8696, β-Naphthoquinone-4-sulfonic Acid Potassium Salt, Special class]

Potassium 1,2-naphthoquinone-4-sulfonate TS Dissolve 0.5 g of potassium 1,2-naphthoquinone-4-sulfonate in water to make 100 mL. Prepare before use.

Potassium nitrate KNO_3 [K 8548, Special class]

Potassium nitrite KNO_2 [K 8017, Special class]

Potassium perchlorate $KClO_4$ [K 8226, Special class]

Potassium periodate KIO_4 [K 8249, Special class]

Potassium periodate TS To 2.8 g of potassium periodate add 200 mL of water, dissolve by adding dropwise 20 mL of sulfuric acid under shaking, cool, and add water to make 1000 mL.

Potassium permanganate $KMnO_4$ [K 8247, Special class]

Potassium permanganate TS Dissolve 3.3 g of potassium permanganate in water to make 1000 mL (0.02 mol/L).

Potassium permanganate TS, acidic To 100 mL of potassium permanganate TS add 0.3 mL of sulfuric acid.

Potassium peroxodisulfate $K_2S_2O_8$ [K 8253, Special class]

Potassium persulfate See potassium peroxodisulfate.

Potassium pyroantimonate See potassium hexahydroxoantimonate (V).

Potassium pyroantimonate TS See potassium hexahydroxoantimonate (V) TS.

Potassium pyrophosphate $K_4O_7P_2$ White, crystalline powder, very soluble in water.

Melting point: 1109°C

Potassium pyrosulfate See potassium disulfate.

Potassium sodium tartarate See potassium sodium tartarate tetrahydrate.

Potassium sodium tartarate tetrahydrate $KNaC_4H_4O_6.4H_2O$

[K 8536, (+)-Potassium sodium tartrate tetrahydrate, Special class]

Potassium sulfate K_2SO_4 [K 8962, Special class]

Potassium sulfate TS Dissolve 1 g of potassium sulfate in water to make 100 mL.

Potassium tartrate $2C_4H_4K_2O_6.H_2O$ [K 8535, Potassium Tartrate-Water (2/1), Special class]

Potassium tellurite K_2TeO_3 White powder or small masses obtained by melting an equimolar mixture of tellurium dioxide and potassium carbonate in a stream of carbon dioxide. Soluble in water.

Content: not less than 90.0%. Assay—Dissolve about 1.0 g of potassium tellurite, accurately weighed, in 100 mL of water, add 5 mL of diluted acetic acid (31) (1 in 3), and boil. After cooling, filter by suction through a crucible glass filter (1G4), previously dried at 105 ± 2°C for 1 hour to constant mass (*b*(g)). Wash the filtrate with water, dry the glass filter at 110°C for 3 hours, and measure the mass *a* (g).

$$\text{Content (\%) of potassium tellurite } (K_2TeO_3) = \frac{(a-b) \times 1.5902}{S} \times 100$$

S: Mass (g) of potassium tellurite taken.

Potassium tetraoxalate for pH determination See potassium trihydrogen dioxalate dihydrate for pH determination.

Potassium thiocyanate KSCN [K 9001, Special class]

Potassium thiocyanate TS Dissolve 1 g of potassium thiocyanate in water to make 10 mL.

Potassium trihydrogen dioxalate dihydrate for pH determination $KH_3(C_2O_4)_2.2H_2O$ [K 8474]

Potato extract Prepared for microbial test.

Potato starch [Same as the namesake monograph in part II]

Potato starch TS Prepare as directed under starch TS with 1 g of potato starch.

Potato starch TS for amylolytic activity test Dry about 1 g of potato starch, accurately weighed, at 105°C for 2 hours, and measure the loss. Weigh accurately an amount of potato starch, equivalent to 1.000 g on the dried basis, place into a conical flask, add 20 mL of water, and make it pasty by gradually adding 5 mL of a solution of sodium hydroxide (2 in 25) while shaking well. Heat in a water bath for 3 minutes while shaking, add 25 mL of water, and cool. Neutralize exactly with 2 mol/L hydrochloric acid TS, add 10 mL of 1 mol/L acetic acid-sodium acetate buffer solution, pH 5.0, and add water to make exactly 100 mL. Prepare before use.

Powdered tragacanth [Same as the namesake monograph in Part II]

Prazepam for assay $C_{19}H_{17}ClN_2O$ [Same as the monograph Prazepam. When dried, it contains not less than 99.0% of $C_{19}H_{17}ClN_2O$.]

Prednisolone $C_{21}H_{28}O_5$ [Same as the namesake monograph]

Prednisone $C_{21}H_{26}O_5$ White, crystalline powder. Slightly soluble in methanol, in ethanol (95) and in chloroform, and very slightly soluble in water.

Optical rotation $[\alpha]_D^{20}$: +167 – +175° (after drying, 0.1 g, 1,4-dioxane, 10 mL, 100 mm).

Loss on drying: not more than 1.0% (1 g, 105°C, 3 hours).

Content: 96.0 – 104.0%. Assay—Weigh accurately about 0.02 g of prednisone, and dissolve in methanol to make exactly 100 mL. Pipet 5 mL of this solution, dilute with methanol to make exactly 100 mL. Perform the test with this solution as directed under the Ultraviolet-visible Spectrophotometry, and read the absorbance *A* at the wavelength of maximum absorption at about 238 nm.

$$\text{Amount (mg) of } C_{21}H_{26}O_5 = \frac{A}{440} \times 20{,}000$$

Prednisolone acetate $C_{23}H_{30}O_6$ [Same as the namesake monograph]

Probenecid $C_{13}H_{19}NO_4S$ [Same as the namesake monograph]

Procainamide hydrochloride $C_{13}H_{21}N_3O.HCl$ [Same as the namesake monograph]

Procainamide hydrochloride for assay $C_{13}H_{21}N_3O.HCl$ [Same as the monograph Procainamide Hydrochloride. When dried, it contains not less than 99.0% of procainamide hydrochloride ($C_8H_8N.HCl$)].

Procaine hydrochloride $C_{13}H_{20}N_2O_2.HCl$ [Same as the namesake monograph]

Procaine hydrochloride for assay [Same as monograph, Procaine Hydrochloride]

Procaterol hydrochloride $C_{16}H_{22}N_2O_3.HCl.H_2O$ [Same as the namesake monograph]

Progesterone $C_{21}H_{30}O_2$ [Same as the namesake monograph]

L-Proline $C_5H_9NO_2$ [K 9107, Special class]

***n*-Propanol** See 1-propanol.

1-Propanol $CH_3CH_2CH_2OH$ [K 8838, Special class]

2-Propanol $(CH_3)_2CHOH$ [K 8839, Special class]

Isopropanol for liquid chromatography See 2-propanol for liquid chromatography.

2-Propanol for liquid chromatography $(CH_3)_2CHOH$ Clear , colorless and volatile liquid, having a characteristic odor. Miscible with water, with ethanol (95) and with diethyl ether. Boiling point: about 82°C.

Refractive index n_D^{20}: 1.376 – 1.378

Specific gravity d_{20}^{20}: 0.785 – 0.788

Purity (1) Ultraviolet absorbing substances—Perform the test with 2-propanol for liquid chromatography as directed under the Ultraviolet-visible Spectrophotometry, using water as the blank: the absorbance at 230 nm is not more than 0.2; at 250 nm, not more than 0.03; and between 280 nm and 400 nm, not more than 0.01.

(2) Peroxide—Mix 100 mL of water and 25 mL of dilute sulfuric acid, and add 25 mL of a solution of potassium iodide (1 in 10). Add this solution to 20 g of 2-propanol for liquid chromatography. Stopper tightly, shake, allow to stand for 15 minute in a dark place, and titrate with 0.01