

and acetic acid (100) (7:3), and titrate with 0.1 mol/L perchloric acid VS (potentiometric titration).

Each mL of 0.1 mol/L perchloric acid VS  
= 18.065 mg of  $C_{14}H_{30}Cl_2N_2O_4$

**Containers and storage** Containers—Tight containers.

## Suxamethonium Chloride for Injection

注射用塩化スキサメトニウム

Suxamethonium Chloride for Injection is a preparation for injection which is dissolved before use. It contains not less than 93% and not more than 107% of the labeled amount of suxamethonium chloride ( $C_{14}H_{30}Cl_2N_2O_4$ ; 361.31).

The concentration of Suxamethonium Chloride for Injection should be stated as the amount of suxamethonium chloride ( $C_{14}H_{30}Cl_2N_2O_4$ ).

**Method of preparation** Prepare as directed under Injections, with Suxamethonium Chloride.

**Description** Suxamethonium Chloride for Injection occurs as a white, crystalline powder or mass.

**Identification** Take an amount of Suxamethonium Chloride for Injection, equivalent to 0.05 g of Suxamethonium Chloride according to the labeled amount, dissolve in water to make 10 mL, and use this solution as the sample solution. Separately, dissolve 0.05 g of suxamethonium chloride for thin-layer chromatography in 10 mL of water, and use this solution as the standard solution. Perform the test with these solutions as directed under the Thin-layer Chromatography. Spot 1  $\mu$ L each of the sample solution and the standard solution on a plate of cellulose for thin-layer chromatography. Develop the plate with a mixture of a solution of ammonium acetate (1 in 100), acetone, 1-butanol and formic acid (20:20:20:1) to a distance of about 10 cm, and dry the plate at 105°C for 15 minutes. Spray evenly platinum chloride-potassium iodide TS on the plate: the spots obtained from the sample solution and the standard solution are blue-purple in color and have similar *R<sub>f</sub>*.

**pH** The pH of a solution of Suxamethonium Chloride for Injection (1 in 100) is between 4.0 and 5.0.

**Purity** Related substances—Take an amount of Suxamethonium Chloride for Injection, equivalent to 0.25 g of Suxamethonium Chloride according to the labeled amount, and proceed as directed in the Purity (2) under Suxamethonium Chloride.

**Assay** Weigh accurately the contents of not less than 10 preparations of Suxamethonium Chloride for Injection. Weigh accurately about 0.5 g of the contents, and proceed as directed in the Assay under Suxamethonium Chloride.

Each mL of 0.1 mol/L perchloric acid VS  
= 18.065 mg of  $C_{14}H_{30}Cl_2N_2O_4$

**Containers and storage** Containers—Hermetic containers.

## Suxamethonium Chloride Injection

塩化スキサメトニウム注射液

Suxamethonium Chloride Injection is an aqueous solution for injection. It contains not less than 93% and not more than 107% of the labeled amount of suxamethonium chloride ( $C_{14}H_{30}Cl_2N_2O_4$ ; 361.31).

The concentration of Suxamethonium Chloride Injection should be stated as the amount of suxamethonium chloride ( $C_{14}H_{30}Cl_2N_2O_4$ ).

**Method of preparation** Prepare as directed under Injections, with Suxamethonium Chloride.

**Description** Suxamethonium Chloride Injection is a clear, colorless liquid.

**Identification** Take a volume of Suxamethonium Chloride Injection, equivalent to 0.05 g of Suxamethonium Chloride according to the labeled amount, add water to make 10 mL, and use this solution as the sample solution. Separately, dissolve 0.05 g of suxamethonium chloride for thin-layer chromatography in 10 mL of water, and use this solution as the standard solution. Perform the test with these solutions as directed under the Thin-layer Chromatography. Spot 1  $\mu$ L each of the sample solution and the standard solution on a plate of cellulose for thin-layer chromatography. Develop the plate with a mixture of a solution of ammonium acetate (1 in 100), acetone, 1-butanol and formic acid (20:20:20:1) to a distance of about 10 cm, and dry the plate at 105°C for 15 minutes. Spray evenly platinum chloride-potassium iodide TS on the plate: the spots obtained from the sample solution and the standard solution are blue-purple in color and have similar *R<sub>f</sub>*.

**pH** 3.0 – 5.0

**Purity** Hydrolysis products—Perform the preliminary neutralization with 0.1 mol/L sodium hydroxide VS in the Assay: not more than 0.7 mL of 0.1 mol/L sodium hydroxide VS is required for each 200 mg of Suxamethonium Chloride ( $C_{14}H_{30}Cl_2N_2O_4$ ) taken.

**Assay** Transfer to a separator an accurately measured volume of Suxamethonium Chloride Injection, equivalent to about 0.2 g of suxamethonium chloride ( $C_{14}H_{30}Cl_2N_2O_4$ ), add 30 mL of freshly boiled and cooled water, and wash the solution with five 20-mL portions of diethyl ether. Combine the diethyl ether washings, and extract the combined diethyl ether layer with two 10-mL portions of freshly boiled and cooled water. Wash the combined water extracts with two 10-mL portions of diethyl ether. Combine the solution and the water extracts, add 2 drops of bromothymol blue TS, and neutralize with 0.1 mol/L sodium hydroxide VS. Add accurately measured 25 mL of 0.1 mol/L sodium hydroxide VS, and boil for 40 minutes under a reflux condenser, and cool. Titrate the excess sodium hydroxide with 0.1 mol/L hydrochloric acid VS. Transfer 50 mL of the freshly boiled and cooled water to a flask, add 2 drops of bromothymol blue TS, neutralize the solution with 0.1 mol/L sodium hydroxide VS, and perform a blank determination.

Each mL of 0.1 mol/L sodium hydroxide VS  
= 18.065 mg of  $C_{14}H_{30}Cl_2N_2O_4$

**Containers and storage** Containers—Hermetic containers.

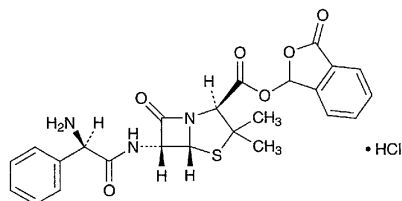
Storage—Not exceeding 5°C, and avoid freezing.

**Expiration date** 12 months after preparation.

## Talampicillin Hydrochloride

### Ampicillinphthalidyl Hydrochloride

塩酸タランピシリン



$C_{24}H_{23}N_3O_6S \cdot HCl$ : 517.98

3-Oxo-1,3-dihydroisobenzofuran-1-yl (2*S*,5*R*,6*R*)-6-[(2*R*)-2-amino-2-phenylacetyl-amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate monohydrochloride [47747-56-8]

Talampicillin Hydrochloride conforms to the requirements of Talampicillin Hydrochloride in the Requirements for Antibiotic Products of Japan.

**Description** Talampicillin Hydrochloride occurs as a white to light yellowish white powder. It has a bitter taste.

It is very soluble in methanol and in ethanol (95), freely soluble in water and in ethanol (99.5), and practically insoluble in diethyl ether.

## Tannic Acid

タンニン酸

Tannic Acid is the tannin usually obtained from nutgalls or rhusgalls.

**Description** Tannic Acid occurs as a yellowish white to light brown, amorphous powder, glistening leaflets, or spongy masses. It is odorless or has a faint, characteristic odor, and has a strongly astringent taste.

It is very soluble in water and in ethanol (95), and practically insoluble in diethyl ether.

**Identification (1)** To 5 mL of a solution of Tannic Acid (1 in 400) add 2 drops of iron (III) chloride TS: a blue-black color develops. Allow the solution to stand: a blue-black precipitate is produced.

**(2)** To 5 mL of a solution of Tannic Acid (1 in 20) add 1 drop each of albumin TS, gelatin TS, or 1 mL of starch TS: a precipitate is produced in each solution.

**Purity (1)** Gum, dextrin and sucrose—Dissolve 3.0 g of Tannic Acid in 15 mL of boiling water: the solution is clear or slightly turbid. Cool, and filter the solution. To 5 mL of the filtrate add 5 mL of ethanol (95): no turbidity is

produced. Add further 3 mL of diethyl ether to this solution: no turbidity is produced.

**(2)** Resinous substances—To 5 mL of the filtrate obtained in (1) add 10 mL of water: no turbidity is produced.

**Loss on drying** Not more than 12.0% (1 g, 105°C, 2 hours).

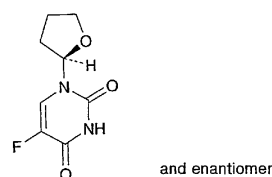
**Residue on ignition** Not more than 1.0% (0.5 g).

**Containers and storage** Containers—Tight containers.

Storage—Light-resistant.

## Tegafur

テガフル



$C_8H_9FN_2O_3$ : 200.17

5-Fluoro-1-[(*RS*)-tetrahydrofuran-2-yl]pyrimidine-2,4-(1*H*,3*H*)-dione [17902-23-7]

Tegafur, when dried, contains not less than 98.0% of  $C_8H_9FN_2O_3$ .

**Description** Tegafur occurs as a white, crystalline powder.

It is soluble in methanol, sparingly soluble in water and in ethanol (95), and slightly soluble in diethyl ether.

It dissolves in dilute sodium hydroxide TS.

**Identification (1)** Prepare the test solution with 0.01 g of Tegafur as directed under the Oxygen Flask Combustion Method, using a mixture of 0.5 mL of 0.01 mol/L sodium hydroxide TS and 20 mL of water as an absorbing liquid: the test solution responds to the Qualitative Tests (2) for fluoride.

**(2)** Determine the absorption spectrum of a solution of Tegafur in 0.01 mol/L sodium hydroxide TS (1 in 100,000) as directed under the Ultraviolet-visible Spectrophotometry, and compare the spectrum with the Reference Spectrum: both spectra exhibit similar intensities of absorption at the same wavelengths.

**(3)** Determine the infrared absorption spectrum of Tegafur, previously dried, as directed in the potassium bromide disk method under the Infrared Spectrophotometry, and compare the spectrum with the Reference Spectrum: both spectra exhibit similar intensities of absorption at the same wave numbers.

**Melting point** 166 – 171°C

**Purity (1)** Clarity and color of solution—Dissolve 0.2 g of Tegafur in 10 mL of dilute sodium hydroxide TS: the solution is clear and colorless.

**(2)** Chloride—Dissolve 0.8 g of Tegafur in 40 mL of water by warming, cool, filter if necessary, and add 6 mL of dilute nitric acid and water to make 50 mL. Perform the test using this solution as the test solution. Prepare the control