Dried Sodium Sulfite

乾燥亜硫酸ナトリウム

Na_2SO_3: 126.04

Dried Sodium Sulfite contains not less than 97.0% of Na_2SO_3.

Description Dried Sodium Sulfite is white crystals or powder. It is odorless.

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

The pH of a solution of Dried Sodium Sulfite (1 in 10) is about 10.

It gradually changes in moist air.

Identification An aqueous solution of Dried Sodium Sulfite (1 in 20) responds to the Qualitative Tests for sodium salt and sulfite.

Purity **(1)** Thiosulfate—Dissolve 1.0 g of Dried Sodium Sulfite in 15 mL of water, add gradually 5 mL of hydrochloric acid, shake, and allow to stand for 5 minutes: no turbidity is produced.

(2) Heavy metals—Dissolve 1.0 g of Dried Sodium Sulfite in 5 mL of water, add 2 mL of hydrochloric acid gradually, and evaporate the mixture on a water bath to dryness. Add 3 mL of boiling water and 1 mL of hydrochloric acid to the residue, and again evaporate to dryness on a water bath. Dissolve the residue in 2 mL of dilute acetic acid and water to make 50 mL, and perform the test using this solution as the test solution. Prepare the control solution as follows: evaporate 3 mL of hydrochloric acid to dryness, and add 2 mL of dilute acetic acid, 2.0 mL of Standard Lead Solution and water to make 50 mL (not more than 20 ppm).

(3) Arsenic—Dissolve 0.5 g of Dried Sodium Sulfite in 5 mL of water, add 1 mL of sulfuric acid, and evaporate on a sand bath until white fumes are evolved. Add water to make 5 mL, take this solution as the sample solution, and perform the test using Apparatus B (not more than 4 ppm).

Assay Weigh accurately about 0.2 g of Dried Sodium Sulfite, transfer immediately to an iodine flask containing exactly 50 mL of 0.05 mol/L iodine VS, stopper, shake, and allow to stand for 5 minutes in a dark place. Add 1 mL of hydrochloric acid, and titrate the excess iodine with 0.1 mol/L sodium thiosulfate VS (indicator: 1 mL of starch TS). Perform a blank determination.

Each mL of 0.05 mol/L iodine VS = 6.302 mg of Na_2SO_3

Containers and storage Containers—Tight containers.

Sophora Root

Sophorae Radix

クジン

Sophora Root is the root of *Sophora flavescens* Aiton (*Leguminosae*) or often such root from which the periderm has been removed.

Description Cylindrical root, 5 - 20 cm in length, 2 - 3 cm in diameter; externally dark brown to yellow-brown, with distinct longitudinal wrinkles, and with laterally extended lenticels; root without periderm, externally yellowish white, with somewhat fibrous surface; the transversely cut surface, light yellow-brown; cortex, 0.1 - 0.2 cm in thickness, slightly tinged with dark color near cambium, forming a crack between xylem. Odor, slight; taste, extremely bitter and lasting.

Identification To 0.5 g of powdered Sophora Root add 10 mL of dilute acetic acid, heat on a water bath for 3 minutes with occasional shaking, cool, and filter. To 5 mL of the filtrate add 2 drops of Dragendorff's TS: an orange-yellow precipitate is produced immediately.

Purity **(1)** Stem—The amount of its stems contained in Sophora Root does not exceed 10.0%.

(2) Foreign matter—The amount of foreign matter other than stems contained in Sophora Root does not exceed 1.0%.

Total ash Not more than 6.0%.

Acid-insoluble ash Not more than 1.5%.

Powdered Sophora Root

Sophorae Radix Pulverata

クジン末

Powdered Sophora Root is the powder of Sophora Root.

Description Powdered Sophora Root occurs as a light brown powder. It has a slight odor, and an extremely bitter and lasting taste.

Under a miscroscope, Powdered Sophora Root reveals mainly starch grains and fragments of parenchyma cells containing them, fibers, bordered pitted vessels, reticulate vessels; a few fragments of corky tissue and solitary crystals of calcium oxalate. Starch grains usually composed of 2- to 4-compound grains 15 - 20 μm in diameter, and simple grains 2 - 5 μm in diameter.

Identification To 0.5 g of Powdered Sophora Root add 10 mL of dilute acetic acid, heat on a water bath for 3 minutes while occasional shaking, cool, and filter. To 5 mL of the filtrate add 2 drops of Dragendorff's TS: an orange-yellow precipitate is produced immediately.

Total ash Not more than 6.0%.

Acid-insoluble ash Not more than 1.5%.

Sorbitan Sesquioleate

セスキオレイン酸ソルビタン

Sorbitan Sesquioleate is a mixture of monoester and diester of sorbitol anhydride, partially esterified with oleic acid.

Description Sorbitan Sesquioleate is a pale yellow to light yellow-brown, viscous oily liquid. It has a faint, characteristic odor and a slightly bitter taste.

It is freely soluble in diethyl ether, slightly soluble in ethanol (95), and very slightly soluble in methanol.

It is dispersed as fine oily drops in water.

Identification (1) To 0.5 g of Sorbitan Sesquioleate add 5 mL of ethanol (95) and 5 mL of dilute sulfuric acid, and heat on a water bath for 30 minutes. Cool, shake with 5 mL of petroleum ether, and allow to stand, and separate the upper layer and the lower layer. Shake 2 mL of the lower layer with 2 mL of freshly prepared catechol solution (1 in 10), then with 5 mL of sulfuric acid: a red to red-brown color develops.

(2) Heat the upper layer obtained in (1) on a water bath, and evaporate petroleum ether. To the residue add 2 mL of diluted nitric acid (1 in 2), and then add 0.5 g of potassium nitrite between 30°C and 35°C with stirring: the solution develops an opalescence, and, when cooled, crystals are formed.

Specific gravity d_{25}^{25}: 0.960 - 1.020

Saponification value 150 - 168

Purity (1) Acid—To 2.0 g of Sorbitan Sesquioleate add 50 mL of neutralized ethanol, and heat on a water bath nearly to boiling with stirring once or twice. Cool, add 4.3 mL of 0.1 mol/L sodium hydroxide VS and 5 drops of phenolphthalein TS: a red color develops.

(2) Heavy metals—Proceed with 1.0 g of Sorbitan Sesquioleate according to Method 2, and perform the test. Prepare the control solution with 2.0 mL of Standard Lead Solution (not more than 20 ppm).

(3) Arsenic—Prepare the test solution with 1.0 g of Sorbitan Sesquioleate according to Method 2, and perform the test using Apparatus B (not more than 2 ppm).

Water Not more than 3.0% (1 g, direct titration, stir for 30 minutes).

Residue on ignition Not more than 1.0% (1 g).

Containers and storage Containers—Tight containers.

Soybean Oil

Oleum Sojae

ダイズ油

Soybean Oil is the fixed oil obtained from the seeds of *Glycine max* merrill (*Leguminosae*).

Description Soybean Oil is a clear, pale yellow oil. It is odorless or has a slight odor, and has a bland taste.

It is miscible with diethyl ether and with petroleum ether.

It is slightly soluble in ethanol (95), and practically insoluble in water.

It congeals between −10°C and −17°C.

Congealing point of the fatty acids: 22 - 27°C

Specific gravity d_{25}^{25}: 0.916 - 0.922

Acid value Not more than 0.2.

Saponification value 188 - 195

Unsaponifiable matter Not more than 1.0%.

Iodine value 126 - 140

Containers and storage Containers—Tight containers.

Stearic Acid

ステアリン酸

Stearic Acid is solid fatty acids obtained from fats, and it consists chiefly of stearic acid ($C_{18}H_{36}O_2$) and palmitic acid ($C_{16}H_{32}O_2$).

Description Stearic Acid occurs as white, unctuous or crystalline masses or powder. It has a faint, fatty odor.

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

Melting point: 56 - 72°C (Method 2).

Acid value 194 - 210

Iodine value Not more than 4.0.

Purity (1) Mineral acid—Melt 5 g of Stearic Acid by warming, shake with 5 mL of boiling water for 2 minutes, filter after cooling, and add 1 drop of methyl orange TS to the filtrate: no red color develops.

(2) Heavy metals—Proceed with 1.0 g of Stearic Acid according to Method 2, and perform the test. Prepare the control solution with 2.0 mL of Standard Lead Solution (not more than 20 ppm).

(3) Fat and paraffin—Boil 1.0 g of Stearic Acid with 0.5 g of anhydrous sodium carbonate and 30 mL of water: the solution, while hot, is clear or not more turbid than the following control solution.

Control solution: To 0.70 mL of 0.01 mol/L hydrochloric acid VS add 6 mL of dilute nitric acid and water to make 30 mL, and add 1 mL of silver nitrate TS.

Residue on ignition Not more than 0.10% (1 g).

Containers and storage Containers—Well-closed containers.

Stearyl Alcohol

ステアリルアルコール

Stearyl Alcohol is a mixture of solid alcohols, and consists chiefly of stearyl alcohol ($C_{18}H_{38}O$).

Description Stearyl Alcohol occurs as a white, unctuous matter. It has a faint, characteristic odor. It is tasteless.

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

Melting point 56 - 62°C (Method 2).

Acid value Not more than 1.0.

Ester value Not more than 3.0.