

(5) Arsenic—Dissolve 0.5 g of Sodium Bisulfite in 10 mL of water. Add 1 mL of sulfuric acid, heat on a sand bath until white fumes are evolved, add water to make 5 mL, and perform the test using Apparatus B with this solution as the test solution (not more than 4 ppm).

Assay Weigh accurately about 0.15 g of Sodium Bisulfite, and 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 = 3.2032 mg of SO₂

Containers and storage Containers—Tight containers.

Storage—Light-resistant, preferably well-filled, and not exceeding 30°C.

Sodium Carbonate

炭酸ナトリウム

Na₂CO₃·10H₂O: 286.14

Sodium Carbonate contains not less than 99.0% and not more than 103.0% of Na₂CO₃·10H₂O.

Description Sodium Carbonate occurs as colorless or white crystals.

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

A solution of Sodium Carbonate (1 in 10) is alkaline.

It is efflorescent in air.

It liquefies in its water of crystallization at 34°C, and becomes anhydrous at above 100°C.

Identification A solution of Sodium Carbonate (1 in 20) responds to the Qualitative Tests for sodium salt and for carbonate.

Purity (1) Clarity and color of solution—Dissolve 1.0 g of Sodium Carbonate in 5 mL of water: the solution is clear and colorless.

(2) Chloride—Dissolve 0.5 g of Sodium Carbonate in 10 mL of water, add 7 mL of dilute nitric acid, dilute with water to make 50 mL, and perform the test using this solution as the test solution. Prepare the control solution with 1.0 mL of 0.01 mol/L hydrochloric acid VS (not more than 0.071%).

(3) Heavy metals—Dissolve 2.0 g of Sodium Carbonate in 10 mL of water, add 8 mL of dilute hydrochloric acid, and evaporate to dryness on a water bath. Dissolve the residue in 35 mL of water and 2 mL of dilute acetic acid, dilute with water to make 50 mL, and perform the test using this solution as the test solution. Prepare the control solution as follows: evaporate 8 mL of dilute hydrochloric acid on a water bath to dryness, add 2 mL of dilute acetic acid and 2.0 mL of Standard Lead Solution, and dilute with water to make 50 mL (not more than 10 ppm).

(4) Arsenic—Prepare the test solution with 0.65 of Sodium Carbonate according to Method 1, and perform the test using Apparatus B (not more than 3.1 ppm).

Loss on drying 61.0 ~ 63.0% (1 g, 105°C, 4 hours).

Assay Dissolve about 3 g of Sodium Carbonate, weighed accurately, in 25 mL of water, and titrate with 0.5 mol/L sulfuric acid VS until the color of the solution changes from blue to yellow-green. Boil cautiously, cool, and further titrate until a greenish yellow color appears (indicator: 2 drops of bromocresol green TS).

Each mL of 0.5 mol/L sulfuric acid VS
= 143.07 mg of Na₂CO₃·10H₂O

Containers and storage Containers—Tight containers.

Dried Sodium Carbonate

乾燥炭酸ナトリウム

Na₂CO₃: 105.99

Dried Sodium Carbonate, when dried, contains not less than 99.0% of Na₂CO₃.

Description Dried Sodium Carbonate occurs as white crystals or crystalline powder.

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

A solution of Dried Sodium Carbonate (1 in 10) is alkaline.

It is hygroscopic.

Identification A solution of Dried Sodium Carbonate (1 in 20) responds to the Qualitative Tests for sodium salt and for carbonate.

Purity (1) Clarity and color of solution—Dissolve 1.0 g of Dried Sodium Carbonate in 10 mL of water: the solution is clear and colorless.

(2) Chloride—Dissolve 0.5 g of Dried Sodium Carbonate in 10 mL of water, add 12 mL of dilute nitric acid, dilute with water to make 50 mL, and perform the test using this solution as the test solution. Prepare the control solution with 1.0 mL of 0.01 mol/L hydrochloric acid VS (not more than 0.071%).

(3) Heavy metals—Dissolve 1.0 g of Dried Sodium Carbonate in 10 mL of water, add 7.5 mL of dilute hydrochloric acid, and evaporate on a water bath to dryness. Dissolve the residue in 35 mL of water and 2 mL of dilute acetic acid, dilute with water to make 50 mL, and perform the test using this solution as the test solution. Prepare the control solution as follows: evaporate 7.5 mL of dilute hydrochloric acid on a water bath to dryness, add 2 mL of dilute acetic acid and 2.0 mL of Standard Lead Solution, and dilute with water to make 50 mL (not more than 20 ppm).

(4) Arsenic—Prepare the test solution with 0.65 g of Dried Sodium Carbonate according to Method 1, and perform the test using Apparatus B (not more than 3.1 ppm).

Loss on drying Not more than 2.0% (2 g, 106°C, 4 hours).

Assay Dissolve about 1.2 g of Dried Sodium Carbonate, weighed accurately, in 25 mL of water, and titrate with 0.5 mol/L sulfuric acid VS until the color of the solution changes from blue to yellow-green. Then boil cautiously, cool, and further titrate until a greenish yellow color develops (indicator: 2 drops of bromocresol green TS).