

lute hydrochloric acid, use this solution as the test solution, and perform the test using Apparatus B (not more than 5 ppm).

Loss on drying Not more than 1.0% (1 g, 180°C, 4 hours).

Assay Weigh accurately about 0.12 g of Precipitated Calcium Carbonate, previously dried, and dissolve in 20 mL of water and 3 mL of dilute hydrochloric acid. Add 80 mL of water, 15 mL of a solution of potassium hydroxide (1 in 10) and 0.05 g of NN indicator, and titrate immediately with 0.05 mol/L disodium dihydrogen ethylenediamine tetraacetate VS until the color of the solution changes from red-purple to blue.

Each mL of 0.05 mol/L disodium dihydrogen ethylenediamine tetraacetate VS
= 5.004 mg of CaCO₃

Containers and storage Containers—Tight containers.

Calcium Chloride

塩化カルシウム

CaCl₂·2H₂O: 147.01

Calcium Chloride contains not less than 96.7% and not more than 103.3% of CaCl₂·2H₂O.

Description Calcium Chloride occurs as white granules or masses. It is odorless.

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

It is deliquescent.

Identification A solution of Calcium Chloride (1 in 10) responds to the Qualitative Tests for calcium salt and for chloride.

pH The pH of a solution of 1.0 g of Calcium Chloride in 20 mL of freshly boiled and cooled water is between 4.5 and 9.2.

Purity (1) Clarity and color of solution—A solution of 1.0 g of Calcium Chloride in 20 mL of water is clear and colorless.

(2) Sulfate—Take 1.0 g of Calcium Chloride, and perform the test. Prepare the control solution with 0.50 mL of 0.005 mol/L sulfuric acid VS (not more than 0.024%).

(3) Hypochlorite—Dissolve 0.5 g of Calcium Chloride in 5 mL of water, add 2 to 3 drops of dilute hydrochloric acid and 2 to 3 drops of zinc iodide-starch TS: no blue color develops immediately.

(4) Heavy metals—Proceed with 2.0 g of Calcium Chloride according to Method 1, and perform the test. Prepare the control solution with 2.0 mL of Standard Lead Solution (not more than 10 ppm).

(5) Iron, aluminum or phosphate—Dissolve, in a Nessler tube, 1.0 g of Calcium Chloride in 20 mL of water and 1 drop of dilute hydrochloric acid, boil, then cool, add 3 drops of ammonia TS, and heat the solution to boil: no turbidity or precipitate is produced.

(6) Barium—Dissolve 0.5 g of Calcium Chloride in 5 mL of water, add 2 drops of dilute hydrochloric acid and 2

mL of potassium sulfate TS, and allow to stand for 10 minutes: no turbidity is produced.

(7) Arsenic—Prepare the test solution with 1.0 g of Calcium Chloride according to Method 1, and perform the test using Apparatus B (not more than 2 ppm).

Assay Weigh accurately about 0.4 g of Calcium Chloride, and dissolve in water to make exactly 200 mL. Measure exactly 20 mL of this solution, add 40 mL of water, 2 mL of 8 mol/L potassium hydroxide TS and 0.1 g of NN indicator, and titrate immediately with 0.02 mol/L disodium dihydrogen ethylenediamine tetraacetate VS until the color of the solution changes from red-purple to blue.

Each mL of 0.02 mol/L disodium dihydrogen ethylenediamine tetraacetate VS
= 2.9402 mg of CaCl₂·2H₂O

Containers and storage Containers—Tight containers.

Calcium Chloride Injection

塩化カルシウム注射液

Calcium Chloride Injection is an aqueous solution for injection. It contains not less than 95% and not more than 105% of the labeled amount of calcium chloride (CaCl₂: 110.98).

The concentration of Calcium Chloride Injection is expressed as the quantity of calcium chloride (CaCl₂).

Do not perform the Pyrogen Test with Calcium Chloride Injection.

Method of preparation Prepare as directed under Injection, with Calcium Chloride.

Description Calcium Chloride Injection is a clear, colorless liquid.

pH: 4.5 – 7.5

Identification Calcium Chloride Injection responds to the Qualitative Tests for calcium salt and for chloride.

Assay Measure exactly a volume of Calcium Chloride Injection, equivalent to about 0.4 g of calcium chloride (CaCl₂), and proceed as directed in the Assay under Calcium Chloride.

Each mL of 0.02 mol/L disodium dihydrogen ethylenediamine tetraacetate VS
= 2.2197 mg of CaCl₂

Containers and storage Containers—Hermetic containers.