

Powdered Cellulose

Definition Powdered Cellulose is composed mainly of cellulose obtained by decomposing pulp.

Description Powdered Cellulose occurs as a white powder. It is odorless.

Identification (1) To 10 g of Powdered Cellulose, add 290 ml of water and mix in a high-speed (12,000 rpm or more) power blender for 5 minutes. Transfer 100 ml of the mixture to a 100-ml measuring cylinder and allow to stand for 1 hour. The suspension separates into a clear or white supernatant liquid and a precipitate.

(2) Dry Powdered Cellulose, and proceed as directed in the Potassium Bromide Disk Method under Infrared Spectrometry. The infrared absorption spectrum for the sample is observed at wavenumbers corresponding to the Reference Spectrum.

Purity (1) pH 5.0 - 7.5.

Weigh accurately 10.0 g of Powdered Cellulose, add 90 ml of water, allow to stand while stirring occasionally for 1 hour, and centrifuge. Use the supernatant liquid for measurement.

(2) Water soluble substances Not more than 1.5%.

Weigh accurately about 6.0 g of Powdered Cellulose, previously dried, add 90 ml of water freshly boiled and cooled. Allow to stand for 10 minutes while stirring occasionally, filter through a glass filter (1G4), discard the initial 10 ml of filtrate, pass the filtrate through the same filter a second time, if necessary, to obtain a clear filtrate. Place 15 ml of the filtrate in a evaporation dish, previously dried and weighed, heat carefully on a water bath not to produce any burn, and evaporate to dryness. Dry the residue at 105 °C for 1 hour and weigh accurately. Separately, perform blank test for correction.

(3) Heavy metals Not more than 10 µg/g as Pb (2.0 g, Method 2, Control Solution Lead Standard Solution 2.0 ml).

(4) Arsenic Not more than 4.0 µg/g as As₂O₃ (0.50 g, Method 2, Apparatus B).

(5) Starch To 20 ml of the liquid obtained under Identification (1), add a few drops of iodine TS, and mix. No bluish purple or blue color develops.

Loss on drying Not more than 10.0% (105 °C, 3 hours).

Ash Not more than 0.30% (about 800 °C, 2 hours)