

Gum Arabic

Arabic Gum

Acacia Gum

Definition Gum Arabic mainly consists of polysaccharides, obtained from the exudation of Acacia .

Description Gum Arabic occurs as a white to light yellow powder, granular and light yellow to brown lump, and is odorless.

Identification (1) To 1 g of powdered Gum Arabic, add 2 ml of water. Gum Arabic is almost dissolved, and the solution is acidic.

(2) To 10 ml of the solution of Gum Arabic (1 : 50), add 0.2 ml of diluted Basic Lead Acetate TS (2 : 100). White fibrous precipitate is formed immediately.

Purity (1) Hydrochloric acid insoluble matter Not more than 1.0 % .

Dry a glass filter (1G3) for 30 minutes at 110 °C, cool in a desiccator, and weigh the glass filter accurately. Weigh accurately 5.0 g of powdered Gum Arabic, dissolve in about 100 ml of water, add 10 ml of diluted hydrochloric acid (1 : 4), heat gradually and boil for 15 minutes. Filter the solution while warming using the glass filter described above under the reduced pressure. Wash the precipitate well by warm water, dry 2 hours at 105 °C together with the glass filter. Cool in a desiccator, weigh accurately.

(2) Tannin-bearing gums To 10 ml of the solution of Gum Arabic (1 : 50), add 3 drops of ferric chloride solution (1 : 10). No dark green color develops.

(3) Starch or Dextrin To 0.2 g of Gum Arabic , add 10 ml of water, and boil. Cool, add 1 drop of Iodine TS. No dark blue or red purple color develops.

(4) Heavy metals Not more than 40 µg/g as Pb (0.50 g, Method 2, Control solution Lead Standard Solution 2.0 ml).

(5) Lead Not more than 10 µg/g as Pb(1.0 g, Method 1).

(6) Arsenic Not more than 4.0 µg/g as As₂O₃ (0.50 g, Method 3, Apparatus B).

Loss on Drying Not more than 17.0 % (105 °C, 6 hours).

Ash Not more than 4.0 %.

Acid insoluble ash Not more than 0.50 %.

Microbial Limits Proceed as directed under the Microbial Limit Tests. The total viable aerobic count is not more than 10,000/g, and no *Escherichia coli* is observed.