TESTS

Assay Mix about 1.5 g, accurately weighed, with 75 mL of recently boiled and cooled water in a 250-mL glass-stoppered Erlenmeyer flask, add phenolphthalein TS, and titrate with 0.5 *N* sodium hydroxide to the first appearance of a faint pink endpoint that persists for at least 30 s, shaking the flask as the endpoint is approached. Each mL of 0.5 *N* sodium hydroxide is equivalent to 36.54 mg of $C_6H_{10}O_4$.

Heavy Metals Prepare and test a 2-g sample as directed in *Method II* under the *Heavy Metals Test*, Appendix IIIB, using 20 µg of lead ion (Pb) in the control (*Solution A*).

Melting Range Determine as directed for *Melting Range or Temperature*, Appendix IIB.

Residue on Ignition Transfer 100.0 g to a tared 125-mL platinum dish that has been previously cleaned by fusing with 5 g of potassium pyrosulfate or bisulfate, followed by boiling in 2 *N* sulfuric acid and rinsing with water. Melt the sample completely over a gas burner, then ignite the melt with the burner. After ignition starts, lower or remove the flame in order to prevent the sample from boiling and to keep it burning slowly until it is completely carbonized. Ignite at 850° in a muffle furnace for 30 min or until the carbon is completely removed, cool, and weigh.

Water Determine by the *Karl Fischer Titrimetric Method*, Appendix IIB.

Packaging and Storage Store in well-closed containers.

Agar

INS: 406 CAS: [9002-18-0]

DESCRIPTION

A dried hydrophilic, colloidal polygalactoside extracted from *Gelidium cartilagineum* (L.) Gaillon (Fam. *Gelidiaceae*), *Gracilaria confervoides* (L.) Greville (Fam. *Sphaerococcaceae*), and related red algae (Class *Rhodophyceae*). It is commercially available in bundles consisting of thin, membranous agglutinated strips, or in cut, flaked, granulated, or powdered forms. It is white to pale yellow in color, is either odorless or has a slight characteristic odor, and has a mucilaginous taste. Agar is insoluble in cold water, but is soluble in boiling water.

Functional Use in Foods Stabilizer; emulsifier; thickener.

REQUIREMENTS

Identification

A. Place a few fragments of unground Agar or a small amount of the powder on a slide, add a few drops of water, and examine microscopically. The Agar appears granular and somewhat filamentous. A few fragments of the spicules of sponges and a few frustules of diatoms may be present.

B. Boil 1 g with 65 mL of water for 10 min with continuous stirring, and adjust to a concentration of 1.5%, by weight, with hot water. A clear liquid is obtained that congeals between 32° and 39° to form a firm, resilient gel that does not liquefy below 85°.

Arsenic (as As) Not more than 3 mg/kg.

Ash (Acid-Insoluble) Not more than 0.5%, calculated on the dried basis.

Ash (Total) Not more than 6.5%, calculated on the dried basis.

Gelatin Passes test.

Heavy Metals (as Pb) Not more than 10 mg/kg.

Insoluble Matter Not more than 1.0%.

Lead Not more than 5 mg/kg.

Loss on Drying Not more than 20.0%.

Starch Passes test.

Water Absorption Passes test.

TESTS

Arsenic A *Sample Solution* prepared as directed for organic compounds meets the requirements of the *Arsenic Test*, Appendix IIIB.

Ash (Acid-Insoluble) Determine as directed in the general method, Appendix IIC.

Ash (Total) Determine as directed in the general method, Appendix IIC.

Gelatin Dissolve about 1 g in 100 mL of boiling water, and allow to cool to about 50°. To 5 mL of the solution add 5 mL of trinitrophenol TS. No turbidity appears within 10 min.

Heavy Metals Prepare and test a 2-g sample as directed in *Method II* under the *Heavy Metals Test*, Appendix IIIB, using 20 µg of lead ion (Pb) in the control (*Solution A*).

Insoluble Matter To 7.5 g add sufficient water to make 500 g, boil for 15 min, and readjust to the original weight. To 100 g of the mixture add hot water to make 200 mL, heat almost to boiling, filter while hot through a tared filtering crucible, rinse the container with several portions of hot water, and pass the rinsings through the crucible. Dry the crucible and its contents at 105° to constant weight, cool, and weigh. The weight of the residue does not exceed 15 mg.

Lead A *Sample Solution* prepared as directed for organic compounds meets the requirements of the *Lead Limit Test*, Appendix IIIB, using 5 µg of lead ion (Pb) in the control.

Loss on Drying, Appendix IIC Dry at 105° for 5 h. Cut unground Agar into pieces from 2 to 5 mm square before drying.

Starch Boil 100 mg in 100 mL of water, cool, and add a few drops of iodine TS. No blue color is produced.

Water Absorption Place 5 g in a 100-mL graduated cylinder, fill to the 100-mL mark with water, mix, and allow to stand at about 25° for 24 h. Pour the contents of the cylinder through moistened glass wool, allowing the water to drain into another 100-mL graduated cylinder. Not more than 75 mL of water is obtained.

Packaging and Storage Store in well-closed containers.