

Ammonium Alginate

Algin

(C₆H₇O₆NH₄)_n

Formula wt, Calculated 193.16

Formula wt, Actual (Avg) 217.00

INS: 403

CAS: [9005-34-9]

DESCRIPTION

The ammonium salt of alginic acid (see the monograph for *Alginic Acid*) occurs as a white to yellowish, fibrous or granular powder. It dissolves in water to form a viscous, colloidal solution. It is insoluble in alcohol and in hydroalcoholic solutions in which the alcohol content is greater than about 30% by weight. It is insoluble in chloroform, in ether, and in acids having a pH lower than about 3.

Functional Use in Foods Stabilizer; thickener; emulsifier.

REQUIREMENTS

Identification

A. To 5 mL of a 1 in 100 solution add 1 mL of calcium chloride TS. A voluminous, gelatinous precipitate is formed.

B. To 10 mL of a 1 in 100 solution add 1 mL of 2.7 N sulfuric acid. A heavy gelatinous precipitate is formed.

C. Ammonium Alginate meets the requirements of *Identification Test C* in the monograph for *Alginic Acid*.

D. To about 1 g of Ammonium Alginate contained in a test tube add 5 mL of 1 N sodium hydroxide, and shake the mixture briefly. The odor of ammonia is evolved.

Assay It yields not less than 18% and not more than 21% of carbon dioxide (CO₂), corresponding to between 88.7% and 103.6% of Ammonium Alginate (equiv wt 217.00), calculated on the dried basis.

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

Ash Not more than 4.0% after drying.

Heavy Metals (as Pb) Not more than 0.002%.

Lead Not more than 5 mg/kg.

Loss on Drying Not more than 15.0%.

TESTS

Assay Proceed as directed under *Alginates Assay*, Appendix III C. Each mL of 0.25 N sodium hydroxide consumed in the assay is equivalent to 27.12 mg of Ammonium Alginate (equiv wt 217.00).

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

Ash Determine as directed under *Ash* in the monograph for *Alginic Acid*.

Heavy Metals Prepare and test a 1-g sample as directed in *Method II* under the *Heavy Metals Test*, Appendix IIIB, but use nitric acid instead of sulfuric acid to wet the sample prior to ignition, and cautiously ignite in a platinum crucible. Any color does not exceed that produced in a control (*Solution A*) containing 20 μg of lead ion (Pb).

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 4 h.

Packaging and Storage Store in well-closed containers.