



calcium chloride volume of a 2.5% solution of calcium chloride. A voluminous, gelatinous precipitate is formed. This test distinguishes potassium alginate from gum arabic, sodium carboxymethyl cellulose, carrageenan, gelatin, gum ghatti, karaya gum, carob bean gum, methyl cellulose and tragacanth gum.

Precipitate formation with ammonium sulfate To a 0.5% solution of the sample in sodium hydroxide TS add one-half of its volume of a saturated solution of ammonium sulfate. No precipitate is formed. This test distinguishes potassium alginate from agar, sodium carboxymethyl cellulose, carrageenan, de-esterified pectin, gelatin, carob bean gum, methyl cellulose and starch.

Test for alginate (Vol. 4) Passes test

Potassium (Vol. 4) Passes test

#### PURITY

Loss on drying (Vol. 4) Not more than 15% (105°, 4 h)

Water-insoluble matter Not more than 2% on the dried basis  
See description under TESTS

Arsenic (Vol. 4) Not more than 3 mg/kg (Method II)

Lead (Vol. 4) Not more than 5 mg/kg  
Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, "Instrumental Methods."

Microbiological criteria (Vol. 4) Total plate count: Not more than 5,000 colonies per gram.  
Initially prepare a 10<sup>-1</sup> dilution by adding a 50 g sample to 450 ml of Butterfield's phosphate buffered dilution water and homogenizing in a high speed blender.  
Yeasts and moulds: Not more than 500 colonies per gram  
Coliforms: Negative by test  
Salmonella: Negative by test

## TESTS

### IDENTIFICATION TESTS

Water-insoluble matter Disperse 2 g of the sample, weighed to the nearest 0.1 mg, in 800 ml of water in a 2,000-ml flask. Neutralize to pH 7 with sodium hydroxide TS and then add 3 ml in excess. Add 40 ml of hydrogen peroxide solution containing 30% by weight H<sub>2</sub>O<sub>2</sub>, cover the flask and boil for 1 h with frequent stirring. Filter while hot through a tared Gooch crucible provided with a glass fibre filter (2.4 cm, No. 934 AH, Reeve Angel & Co., Clifton, N.Y., or equivalent filter). If slow filtration is caused by high viscosity of the sample solution, boil until the viscosity is reduced enough to permit filtration. Wash the crucible thoroughly with hot water, dry the crucible and its contents at 105° for 1 h, cool and weigh. Calculate as percentage of the dry weight.

**METHOD OF  
ASSAY**

Proceed as directed under *Carbon Dioxide Determination by Decarboxylation*. Each ml of 0.25 N sodium hydroxide consumed is equivalent to 5.5 mg of carbon dioxide (CO<sub>2</sub>) or 29.75 mg of potassium alginate (equivalent weight 238).