

## Calcium Alginate

Algin

$[(C_6H_7O_6)_2Ca]_n$

Formula wt, *Calculated* 195.16

Formula wt, *Actual (Avg)* 219.00

INS: 404

CAS: 9005-35-0

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### DESCRIPTION

The calcium salt of alginic acid (see the monograph for *Alginic Acid*) occurs as a white to yellowish, fibrous or granular powder.

It is nearly odorless and tasteless. It is insoluble in water, but is soluble in alkaline solutions or in solutions of substances that combine with the calcium. It is insoluble in organic solvents.

**Functional Use in Foods** Stabilizer; thickener; emulsifier.

### REQUIREMENTS

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

**Assay** It yields not less than 18% and not more than 21% of carbon dioxide (CO<sub>2</sub>), corresponding to between 89.6% and 104.5% of Calcium Alginate (equiv wt 219.00), calculated on the dried basis.

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

**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 IIIC. Each mL of 0.25 *N* sodium hydroxide consumed in the assay is equivalent to 27.38 mg of Calcium Alginate (equiv wt 219.00).

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

**Heavy Metals** Determine as directed in the test for *Heavy Metals* in the monograph for *Alginic Acid*.

**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.