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## Kaolin

### DEFINITION

Kaolin is a native hydrated aluminum silicate, powdered and freed from gritty particles by elutriation.

### IDENTIFICATION

- A. [IDENTIFICATION TESTS—GENERAL, Aluminum\(191\)](#)

**Sample solution:** Mix 1 g of Kaolin with 10 mL of water and 5 mL of sulfuric acid in a porcelain dish. Evaporate the mixture until the excess water is removed, and continue heating the residue until dense, white fumes of sulfur trioxide appear. Cool, cautiously add 20 mL of water, boil for a few min, and filter.

**Acceptance criteria:** A gray residue (impure silica) remains on the filter, and the filtrate meets the requirements of the test.

### IMPURITIES

- [Loss on Ignition \(733\)](#)

**Analysis:** Ignite between 550° and 600°.

**Acceptance criteria:** NMT 15.0%

- [LEAD \(251\)](#)

**Test preparation:** Transfer 1.0 g of Kaolin to a centrifuge tube, add 10 mL of 1 N nitric acid, and digest for 1 h in a boiling water bath.

Centrifuge until the solids are completely separated, and pour the supernatant into a 100-mL volumetric flask. Add 5 mL of 1 N nitric acid, and digest for 15 min in a boiling water bath. Centrifuge, and add the supernatant to the previous extract in the volumetric flask. Dilute with water to volume.

**Analysis:** Proceed as directed in the chapter, using a 50-mL portion of this solution, 3 mL of *Ammonium Citrate Solution*, 500 µL of *Hydroxylamine Hydrochloride Solution*, and 1 mL of *Potassium Cyanide Solution*.

**Acceptance criteria:** NMT 5 µg of lead (NMT 10 ppm)

- [IRON](#)

**Sample:** 2.0 g

**Analysis:** Triturate the *Sample* in a mortar with 10 mL of water, and add 0.50 g of sodium salicylate.

**Acceptance criteria:** The mixture does not acquire more than a slight reddish tint.

- [ACID-SOLUBLE SUBSTANCES](#)

**Sample:** 1.0 g

**Analysis:** Digest the *Sample* with 20 mL of 3 N hydrochloric acid for 15 min, and filter.

**Acceptance criteria:** NMT 2.0%; 10 mL of the filtrate, evaporated to dryness and ignited, leaves NMT 10 mg of residue.

- [CARBONATE](#)

**Sample:** 1.0 g

**Analysis:** Mix the *Sample* with 10 mL of water and 5 mL of sulfuric acid.

**Acceptance criteria:** No effervescence occurs.

### SPECIFIC TESTS

- [MICROBIAL ENUMERATION TESTS \(61\)](#) and [TESTS FOR SPECIFIED MICROORGANISMS \(62\)](#): It meets the requirements of the tests for absence of *Escherichia coli*.

### ADDITIONAL REQUIREMENTS

- [PACKAGING AND STORAGE:](#) Preserve in well-closed containers.

Topic/Question	Contact	Expert Committee
KAOLIN	<a href="#">Documentary Standards Support</a>	SM32020 Small Molecules 3
REFERENCE STANDARD SUPPORT	RS Technical Services <a href="mailto:RSTECH@usp.org">RSTECH@usp.org</a>	SM32020 Small Molecules 3

**Chromatographic Database Information:** [Chromatographic Database](#)

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