

## Dried Aluminum Potassium Sulfate

### Burnt Alum

乾燥硫酸アルミニウムカリウム

$\text{AlK}(\text{SO}_4)_2$ : 258.21

Dried Aluminum Potassium Sulfate, when dried, contains not less than 98.0% of  $\text{AlK}(\text{SO}_4)_2$ .

**Description** Dried Aluminum Potassium Sulfate occurs as white masses or white powder. It is odorless. It has a slightly sweet, astringent taste.

It is freely soluble in hot water and practically insoluble in ethanol (95).

It dissolves slowly in water.

**Identification** A solution of Dried Aluminum Potassium Sulfate (1 in 20) responds to the Qualitative Tests for aluminum salt, to the Qualitative Tests (1), (3) and (4) for potassium salt, and to the Qualitative Tests (1) and (3) for sulfate.

**Purity** (1) Water-insoluble substances—To 2.0 g of Dried Aluminum Potassium Sulfate add 40 mL of water, shake frequently, and allow to stand for 48 hours. Collect the insoluble residue on a glass filter (G4), wash with 50 mL of water, and dry at 105°C for 2 hours: the mass of the residue is not more than 50 mg.

(2) Heavy metals—Dissolve 0.5 g of Dried Aluminum Potassium Sulfate in 45 mL of water, and filter, if necessary. Add 2 mL of dilute acetic acid and water to make 50 mL, and perform the test using this solution as the test solution. Prepare the control solution with 2.0 mL of Standard Lead Solution, 2 mL of dilute acetic acid and water to make 50 mL (not more than 40 ppm).

(3) Iron—Prepare the test solution with 0.54 g of Dried Aluminum Potassium Sulfate according to Method 1, and perform the test according to Method A. Prepare the control solution with 2.0 mL of Standard Iron Solution (not more than 37 ppm).

(4) Arsenic—Prepare the test solution with 0.40 g of Dried Aluminum Potassium Sulfate, according to Method 1, and perform the test using Apparatus B (not more than 5 ppm).

**Loss on drying** Not more than 15.0% (2 g, 200°C, 4 hours).

**Assay** Weigh accurately about 1.2 g of Dried Aluminum Potassium Sulfate, previously dried, add 80 mL of water, and heat on a water bath with occasional shaking for 20 minutes. Cool, add water to make exactly 100 mL, and filter, if necessary. Discard the first 30 mL of the filtrate, take exactly the subsequent 20 mL of the filtrate, and add exactly 30 mL of 0.05 mol/L disodium dihydrogen ethylenediamine tetraacetate VS and 20 mL of acetic acid-ammonium acetate buffer solution, pH 4.8, boil for 5 minutes, and cool. Add 55 mL of ethanol (95), and titrate with 0.05 mol/L zinc acetate VS (indicator: 2 mL of dithizone TS), until the color of the solution changes from light dark green to light red. Perform a blank determination.

Each mL of 0.05 mol/L disodium dihydrogen ethylenediamine tetraacetate VS  
= 12.910 mg of  $\text{AlK}(\text{SO}_4)_2$

**Containers and storage** Containers—Tight containers.

## Amomum Seed

### Amomi Semen

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Amomum Seed is the seed mass of *Amomum xanthioides* Wallich (*Zingiberaceae*).

**Description** Approximately spherical or ellipsoidal mass, 1 – 1.5 cm in length, 0.8 – 1 cm in diameter; externally grayish brown to dark brown, and with white powder in those dried by spreading lime over the seeds; the seed mass is divided into three loculi by thin membranes, and each loculus contains 10 to 20 seeds joining by aril; each seed is polygonal and spherical, 0.3 – 0.5 cm in length, about 0.3 cm in diameter, externally dark brown, with numerous, fine protrusions; hard tissue; under a magnifying glass, a longitudinal section along the raphe reveals oblong section, with deeply indented hilum and with slightly indented chalaza; white perisperm covering light yellow endosperm and long embryo. Characteristic aroma when cracked, and taste acid.

**Total ash** Not more than 9.0%.

**Acid-insoluble ash** Not more than 3.0%.

**Essential oil content** Perform the test with 30.0 g of pulverized Amomum Seed as directed in the Essential oil content under Crude Drugs: the volume of essential oil is not less than 0.6 mL.

## Powdered Amomum Seed

### Amomi Semen Pulveratum

シユクシャ末

Powdered Amomum Seed is the powder of Amomum Seed.

**Description** Powdered Amomum seed occurs as a grayish brown powder, and has a characteristic aroma and an acid taste.

Under a microscope, Powdered Amomum Seed reveals fragments of wavy perisperm cells filled with starch grains and containing in each cell a calcium oxalate crystal; yellow and long epidermal cells of seed coat and fragments of thin-walled tissue perpendicular to them; fragments of groups of brown, thick-walled polygonal stone cells.

**Total ash** Not more than 9.0%.

**Acid-insoluble ash** Not more than 3.0%.

**Essential oil content** Perform the test with 30.0 g of Powdered Amomum Seed as directed in the Essential oil content