Areca

Arecae Semen

ビンロウジ

Areca is the seed of *Areca catechu* Linné (*Palmae*).

Description Rounded-conical or flattened nearly spherical seed 1.5 - 3.5 cm high and 1.5 - 3 cm in diameter; hilum at the center of its base and usually forming a dent; externally grayish red-brown to grayish yellow-brown, with a network of pale lines; hard in texture; cross section dense in texture, exhibiting a marbly appearance of grayish brown seed coat alternating with white albumen; center of the seed often hollow. Odor, slight; taste, astringent and slightly bitter.

Identification Weigh 3.0 g of pulverized Areca in a glass-stoppered centrifuge tube, and add 30 mL of diethyl ether and 5 mL of sodium hydroxide TS, stopper tightly, shake for 5 minutes, centrifuge, and separate the supernatant liquid. Evaporate the diethyl ether on a water bath, dissolve the residue in 1.5 mL of methanol, filter, and use the filtrate as the sample solution. Separately, dissolve 5 mg of arecoline hydrobromide for thin-layer chromatography in 1 mL of methanol, and use this solution as the standard solution. Perform the test with these solutions as directed under the Thin-layer chromatography. Spot 5 μL each of the sample solution and the standard solution on a plate of silica gel for thin-layer chromatography. Develop the plate with a mixture of acetone, water and acetic acid (100) (10:6:1) to a distance of about 10 cm, and air-dry the plate. Spray evenly Iodine TS on the plate: one spot among the spots from the sample solution and a red-brown spot from the standard solution show the same color tone and the same *Rf* value.

Purity **(1)** Pericarp—The amount of pericarp contained in Areca does not exceed 2.0%.

(2) Foreign matter—The amount of foreign matter other than the pericarp contained in Areca does not exceed 1.0%.

Total ash Not more than 2.5%.

Arsenical Paste

亜ヒ酸パスタ

Arsenical Paste contains not less than 36.0% and not more than 44.0% of arsenic (III) trioxide (As_2O_3: 197.84).

Method of preparation

Arsenic Trioxide, finely powdered	40 g
Procaine Hydrochloride, finely powdered	10 g
Hydrophilic Ointment	30 g
Clove Oil	a suitable quantity
Medicinal Carbon	a suitable quantity
	To make 100 g

Mix Arsenic Trioxide and Procaine Hydrochloride with Hydrophilic Ointment, and add Clove Oil to make a suitably viscous liquid, followed by Medicinal Carbon for coloring.

Description Arsenical Paste is grayish black and has the odor of clove oil.

Identification **(1)** Place 0.1 g of Arsenical Paste in a small flask, add 5 mL of fuming nitric acid and 5 mL of sulfuric acid, and heat over a flame until the reacting liquid becomes colorless and white fumes begin to evolve. After cooling, add the reacting liquid to 20 mL of water cautiously, and add 10 mL of hydrogen sulfide TS while warming: a yellow precipitate is produced (arsenic (III) trioxide).

(2) Shake thoroughly 0.5 g of Arsenical Paste with 25 mL of diethyl ether, 5 mL of dilute hydrochloric acid and 20 mL of water, separate the water layer, and filter: 5 mL of the filtrate responds to the Qualitative Tests for primary aromatic amines (procaine hydrochloride).

(3) Shake thoroughly 0.5 g of Arsenical Paste with 25 mL of diethyl ether and 25 mL of water, separate the water layer, filter, and use the filtrate as the sample solution. Dissolve 0.01 g of procaine hydrochloride in 5 mL of water, and use this solution as the standard solution. Perform the test with these solutions as directed under the Thin-layer Chromatography. Spot 5 μL each of the sample solution and the standard solution on a plate of silica gel with fluorescent indicator for thin-layer chromatography. Develop the plate with a mixture of ethyl acetate, ethanol (99.5) and ammonia solution (28) (50:5:1) to a distance of about 10 cm, and air-dry the plate. Examine under ultraviolet light (main wavelength: 254 mm): the spots from the sample solution and the standard solution exhibit the same *Rf* value.

Assay Weigh accurately about 0.3 g of Arsenical Paste into a 150-mL Kjeldahl flask, add 5 mL of fuming nitric acid and 10 mL of sulfuric acid, and shake thoroughly. Heat cautiously the mixture, gently at first, and then continue strong heating, until red fumes of nitrogen oxide are sparingly evolved. After cooling, add 5 mL of fuming nitric acid, heat again until red fumes of nitrogen oxide are no longer evolved and the reacting liquid becomes clear, and cool. Add 30 mL of a saturated solution of ammonium oxalate monohydrate, heat again until white fumes of sulfuric acid are evolved, and continue the heating for 10 minutes. Decompose completely oxalic acid, cool, transfer cautiously the colorless reacting liquid to a glass-stoppered flask, containing 40 mL of water. Wash thoroughly the Kjeldahl flask with 60 mL of water, add the washings to the content of the glass-stoppered flask, and cool. Dissolve 3 g of potassium iodide in this solution, allow to stand in a dark place at room temperature for 45 minutes, and titrate the liberated iodine with 0.1 mol/L sodium thiosulfate VS (indicator: 5 mL of starch TS). Perform a blank determination, and make any necessary correction.

Each mL of 0.1 mol/L sodium thiosulfate VS
= 4.946 mg of As_2O_3

Containers and storage Containers—Tight containers.