

**Acid-insoluble ash** Not more than 2.0%.

**Extract content** Dilute ethanol-soluble extract: not less than 30.0%.

## Powdered Senega

*Senegae Radix Pulverata*

セネガ末

Powdered Senega is the powder of Senega.

**Description** Powdered Senega occurs as a light brown powder, and has a characteristic odor resembling the aroma of methyl salicylate; taste, sweet at first, but later acrid.

Under a microscope, Powdered Senega reveals fragments of pitted vessels, reticulate vessels and tracheids; fragments of xylem fibers with oblique pits; fragments of xylem parenchyma cells with simple pits; fragments of phloem parenchyma containing oily droplets; fragments of exodermis often composed of cells suberized and divided into daughter cells; oily droplets stained red by sudan III TS. The parenchyma cells of Powdered Senega do not contain starch grains and crystals of calcium oxalate.

**Identification (1)** Shake vigorously 0.5 g of Powdered Senega with 10 mL of water: a lasting fine foam is produced.

(2) Shake 0.5 g of Powdered Senega with 30 mL of water for 15 minutes, and filter. Take 1 mL of the filtrate, mix with 50 mL of water, and determine the absorption spectrum of the solution as directed under the Ultraviolet-visible Spectrophotometry: it exhibits a maximum at about 317 nm.

**Purity** Foreign matter—Under a microscope, stone cells, starch grains or crystals of calcium oxalate are not observable.

**Loss on drying** Not more than 13.0% (6 hours).

**Total ash** Not more than 5.0%.

**Acid-insoluble ash** Not more than 2.0%.

**Extract content** Dilute ethanol-soluble extract: not less than 30.0%.

## Senega Syrup

*Syrupus Senegae*

セネガシロップ

### Method of preparation

Senega, in medium cutting	40 g
Sucrose	780 g
10 vol% Ethanol	a sufficient quantity
Purified Water	a sufficient quantity
To make 1000 mL	

Add 400 mL of 10 vol% ethanol to Senega, and macerate for one or two days. Filter the extract, wash the residue with

a small amount of 10 vol% Ethanol, filter, and combine the filtrate of the extracts and washings until total volume measures about 500 mL. Dissolve Sucrose in the mixture, by warming if necessary, and dilute to 1000 mL with Purified Water. May be prepared with an appropriate quantity of Ethanol and Purified Water in place of 10 vol% Ethanol.

**Description** Senega Syrup is a yellow-brown, viscous liquid. It has a characteristic odor resembling methyl salicylate and a sweet taste.

**Identification** Add 5 mL of water to 1 mL of Senega Syrup, and shake: lasting small bubbles are produced.

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

## Senna Leaf

*Sennae Folium*

センナ

Senna Leaf is the leaflets of *Cassia angustifolia* Vahl or *Cassia acutifolia* Delile (*Leguminosae*).

It contains not less than 1.0% of total sennosides (sennoside A and sennoside B), calculated on the basis of dried material.

**Description** Lanceolate to narrow lanceolate leaflets, 1.5 – 5 cm in length, 0.5 – 1.5 cm in width, light grayish yellow to light grayish yellow-green in color; margin entire, apex acute, base asymmetric, petiole short; under a magnifying glass, vein marked, primary lateral veins running toward the apex along the margin and joining the lateral vein above; lower surface having slight hairs. Odor slight; taste, bitter.

Under a microscope, a transverse section of Senna Leaf reveals epidermis with thick cuticle, with numerous stomata, and with thick-walled, warty unicellular hairs; epidermal cells are often separated into two loculi by a septum which is in parallel with the surface of the leaf, and contain mucilage in the inner loculus; palisade of a single layer under each epidermis; spongy tissue, consisting of 3 to 4 layers, and containing clustered or solitary crystals of calcium oxalate; cells adjacent to vascular bundle, forming crystal cell rows.

**Identification (1)** Macerate 0.5 g of pulverized Senna Leaf in 10 mL of diethyl ether for 2 minutes, and filter. Add 5 mL of ammonia TS to the filtrate: a yellow-red color is produced in the water layer. To the residue of maceration add 10 mL of water, and macerate for 2 minutes. Filter, and add 5 mL of ammonia TS: a yellow-red color is produced in the water layer.

(2) To 2.0 g of pulverized Senna Leaf add 40 mL of a mixture of tetrahydrofuran and water (7:3), shake for 30 minutes, and centrifuge. Transfer the supernatant liquid to a separator, add 13 g of sodium chloride, and shake for 30 minutes. Separate the water layer with undissolved sodium chloride, and adjust the pH to 1.5 by adding 1 mol/L hydrochloric acid TS. Transfer this solution to another separator, shake with 30 mL of tetrahydrofuran for 10 minutes, separate the tetrahydrofuran layer, and use this solution as the sample solution. Separately, dissolve 1 mg of sennoside A for thin-layer chromatography in 1 mL of a mixture of