

# Macroscopic and Microscopic Identification of Cortex type of Decoction Pieces Commonly Found in Hong Kong



## Cortex Fraxini\*

**Source** The dried branch bark or stem bark of *Fraxinus rhynchophylla* Hance, *F. chinensis* Roxb., *F. chinensis* Roxb. Var. *acuminata* Lingelsh<sup>@</sup> or *F. stylosa* Lingelsh<sup>#</sup> in the family Oleaceae

**Property and Flavour** Cold; bitter, astringent

**Meridian Affinity** Liver, gallbladder and large intestine meridians

**Actions** To clear heat and dry dampness, astringe and stop dysentery, stop leucorrhoea, brighten the eyes

**Production Area** Mainly produced in Shaanxi, Sichuan, Liaoning, Jilin, Heilongjiang, Henan, Hubei, Gansu, Yunnan, etc.

**Note:**

\* Its name in Chinese Pharmacopoeia (2020 Edition) is “Fraxini Cortex”.

@ The scientific name of the plant source in Chinese Pharmacopoeia (2020 Edition) is “*Fraxinus szaboana* Lingelsh.”.

# The scientific name of the plant source in Chinese Pharmacopoeia (2020 Edition) is “*Fraxinus stylosa* Lingelsh.”.



衛生署

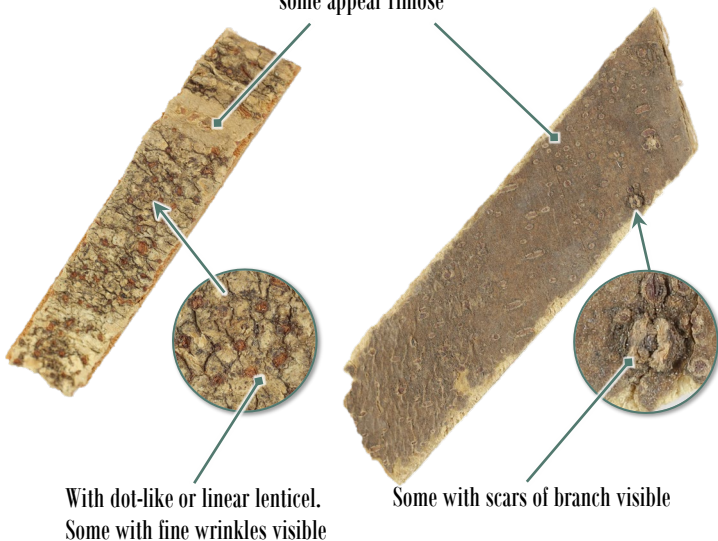
Department of Health



## Macroscopic Identification Features

**Shape** Appears strip-shaped, varies in length, straight or curled

Outer surface is greyish-white or greyish-brown, some of which having the two colours arranged alternatively to appear mottle-like. Flat or rough, some appear rimose



Inner surface is light brown, greyish-brown or brown, smooth, and has fine, dense and straight striations



Cut surface is yellowish-white, light brown or brown. Some with grid-like striations



**Texture** Light, hard and fragile, easily broken

**Fracture** Strongly fibrous, and yellowish-white or light brown



0.2 cm

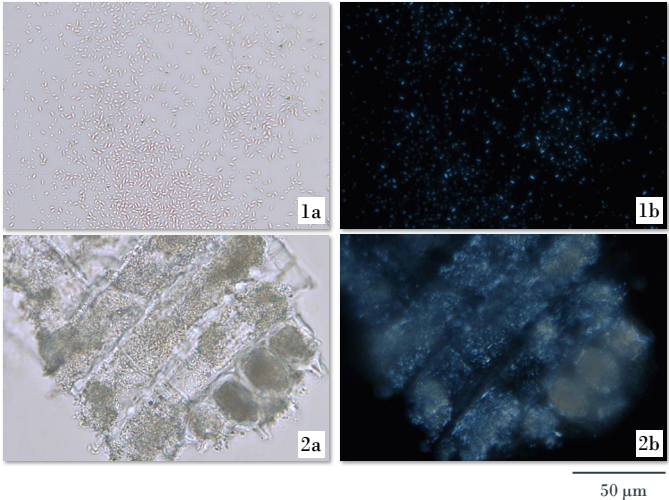
**Odour** Slight



# Features of Easy Powder Microscopic Identification

## - Crystal -

### Crystal sand of calcium oxalate



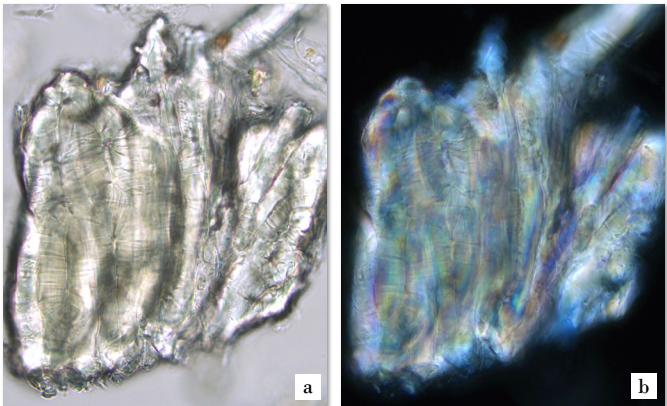
Scattered (1) or present in parenchymatous cell (2), small, appears granular or short-fusiform; bright white under polarized light microscope

*a. features under bright field; b. features under polarized light*



## - Sclerenchyma -

### Stone cell



50 μm

Frequently found, singly scattered or present in groups, appears sub-rounded, sub-square, sub-rectangular, elliptical or irregular and short-branched, wall is extremely thick, with distinct pit canals; bright white or polychromatic under polarized light microscope

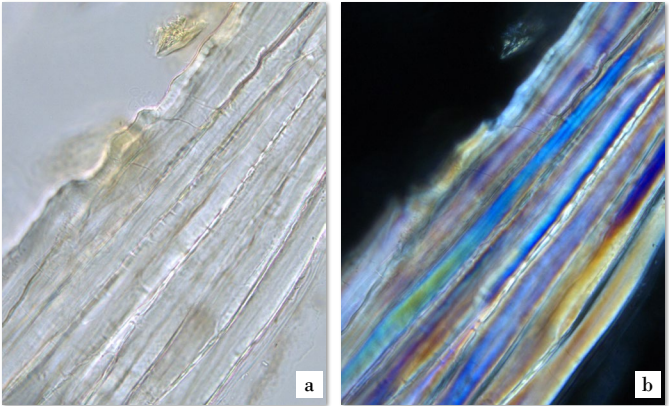
*a. features under bright field; b. features under polarized light*



# Additional Features of Powder Microscopic Identification

## - Sclerenchyma -

### Fibre

50  $\mu\text{m}$ 

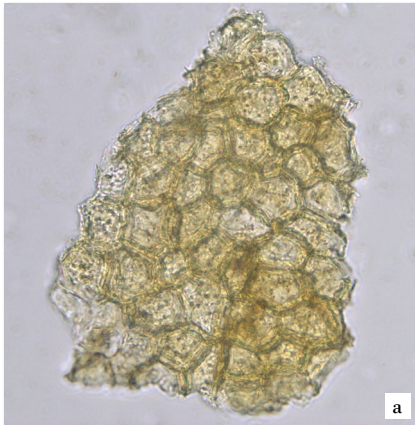
Frequently found, usually several in bundles, sometimes singly scattered, usually broken, straight or slightly curved, margin usually uneven, wall is extremely thick, with indistinct pits, lumen is narrow; bright white or polychromatic under polarized light microscope

*a. features under bright field; b. features under polarized light*



## - Protective tissue -

### Cork cell



50  $\mu$ m

Light yellow or light yellowish-brown, appears sub-polygonal or sub-rectangular in surface view

*a. features under bright field; b. features under polarized light*







## Key Identification Features

### - Macroscopic features -

- ◇ Outer surface is greyish-white or greyish-brown, some of which having the two colours arranged alternatively to appear mottle-like. With dot-like or linear lenticel. Some with fine wrinkles, scars of branch visible, or appear rimose
- ◇ Fracture is strongly fibrous, and yellowish-white or light brown

### - Powder Microscopic features -

- ◇ Crystal sand of calcium oxalate is small and appears granular or short-fusiform
- ◇ Stone cell appears sub-rounded, sub-square, sub-rectangular, elliptical or irregular and short-branched, wall is extremely thick, with distinct pit canals

For more information, please refer to [website of the Hong Kong Chinese Materia Medica Standards](#):

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Government Chinese Medicines Testing Institute

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