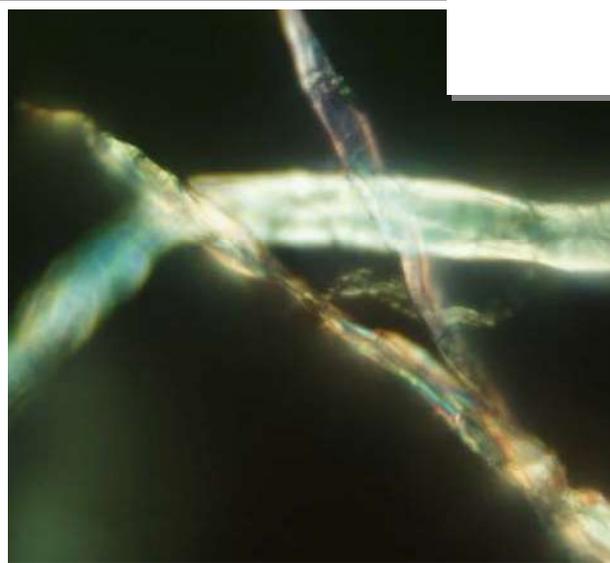


# Kozo

Chemical Formula *Broussonetia kazinoki* Sieb  
*Diplomorpha canescens*, family Moraceae



Microscopic appearance at x500 mag



Microscopic appearance under slightly crossed polars

## Dates of Use

Ancient times to the present day.

## Summary of Manufacture

Family Moraceae.

Fibers yielded from the mulberry tree. As opposed to paper mulberry which is manufactured from the fibers of *Broussonetia papyfera*, the main source of kozo is derived from *Broussonetia kazinoki*. There are however many varieties of mulberry from which kozo is made but the latter one is considered to yield the best fibers. The tree is cut into sections and cut branches left to steam in a pot of boiling water. After several hours when the bark has softened it is stripped by hand and hung to dry. The bark is then later soaked and stripped down from the outer bark into the inner green and white bark depending upon the yield desired for papermaking.

## Brief History of Usage

The most widely used bast fiber in Japan; Kozo originates from around 105AD, from a mountain wilderness of Shikoko and Kyusu province of China. The kozo mulberry is closely related to the white and red mulberry trees commonly found in North America. The leaves of the variety, *Morus alba* L. are fed to silkworms in Japan.

## Surface Morphology/ Microscopic Description

Known for its long, sinewy and strong fibers.

Fibers vary in length between three and twenty-five mm.

Fiber diameter averages .025mm.

The material constituents of the white bark of kozo averages approximately nine per cent and the lignin content about 4 per cent.

Thai kozo is less expensive than kozo grown in Thailand. The plant is identical botanically to the Japanese kozo, but due to the warmer climate they have different fiber characteristics. Chinese kozo is less expensive than Thai kozo and similar to Japanese in appearance.

## Aging Characteristics

Generally kozo fiber contains very little lignin and therefore little inherent acidity. The fibers are long and physically strong and as a result the paper is durable and only mainly at risk from external factors of degradation. Over time however, the fiber furnish or surface of the paper can become fluffy as the long fibers undergo physical damage and abrasion across the surface of the sheet, the fibers twist and protrude from the surface.

## Technical Examination Techniques/ Chemical Staining Tests