

# Poplar

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## Species (Family)

*Populus tremuloides* Michx. (Salicaceae)

## Synonym(s)

*Populus Alba*, Quaking Aspen, White Poplar

## Part(s) Used

Bark

## Pharmacopoeial and Other Monographs

BHP 1996<sup>(G9)</sup>

Complete German Commission E<sup>(G3)</sup>

Martindale 32nd edition<sup>(G43)</sup>

PDR for Herbal Medicines 2nd edition<sup>(G36)</sup>

## Legal Category (Licensed Products)

GSL<sup>(G37)</sup>

## Constituents<sup>(G6,G39,G40,G64)</sup>

**Glycosides** Salicin (about 2.4%), salicortin, salireposide and various benzoate derivatives including populin (salicin-6-benzoate), tremuloidin (salicin-2-benzoate) and tremulacin (salicortin-2-benzoate).

**Other constituents** Tannins (unspecified), triterpenes including  $\alpha$ -amyrin and  $\beta$ -amyrin, carbohydrates including glucose, fructose and various trisaccharides, fats, waxes.

## Food Use

Poplar is listed by the Council of Europe as a natural source of food flavouring (category N2). This category indicates that poplar can be added to foodstuffs in small quantities, with a possible limitation of an active principle (as yet unspecified) in the final product.<sup>(G16)</sup> In the USA, poplar is permitted for use in foods.<sup>(G65)</sup>

## Herbal Use

Poplar is stated to possess antirheumatic, anti-inflammatory, antiseptic, astringent, anodyne and cholera-

gogue properties. Traditionally, it has been used for muscular and arthrodial rheumatism, cystitis, diarrhoea, anorexia with stomach or liver disorders, common cold, and specifically for rheumatoid arthritis.<sup>(G6,G7,G64)</sup>

The buds of *Populus tremula* (European white poplar, aspen) and *Populus nigra* (black poplar) are used, reputedly as expectorant and circulatory stimulant remedies, for upper respiratory tract infections and rheumatic conditions.<sup>(G49)</sup>

## Dosage

**Dried bark** 1–4 g or by decoction three times daily.<sup>(G6,G7)</sup>

**Liquid extract** 1–4 mL (1:1 in 25% alcohol) three times daily.<sup>(G6,G7)</sup>

## Pharmacological Actions

### *In vitro* and animal studies

None documented for poplar. *See* Willow for the pharmacological actions associated with salicylates.

### Clinical studies

None documented for poplar. The pharmacological actions of salicylates in humans are well documented and are applicable to poplar. Salicin is a prodrug that is metabolised to saligenin in the gastrointestinal tract and to salicylic acid following absorption.

## Side-effects, Toxicity

None documented. *See* Willow for side-effects and toxicity associated with salicylates.

## Contra-indications, Warnings

*See* Willow for contra-indications and warnings associated with salicylates.

**Pregnancy and lactation** The safety of poplar taken during pregnancy has not been established. *See*

Willow for contra-indications and warnings regarding the use of salicylates during pregnancy and lactation.

### **Pharmaceutical Comment**

The chemistry of poplar is characterised by the phenolic glycoside components, which support

some of the reputed herbal uses. The usual precautions associated with other salicylate-containing drugs are applicable to poplar.

### **References**

*See* General References G3, G6, G9, G16, G31, G36, G37, G39, G40, G43, G49 and G64.