

## **BLACK CATECHU**

**Synonyms:** Cutch, Kattha, Khadir, Khair

The word catechu is used for different varieties of commonly known substance kattha in market. In reality, there are two distinct varieties which constitute kattha and cutch of the pharmacopoeial quality. A pale produce, rich in catechin, is kattha and the other rich in catechutannic acid is the Cutch. Kattha is extensively used with betel leaf and also in medicines. Cutch is used in dyeing and calicoprinting. Kattha is manufactured from *Acacia catechu*. Kattha and clutch are two different products of the same plant.

**Biological source:** It consists of dried aqueous extract of the heartwood of the plant *Acacia catechu*, Wild belongs to family Leguminosae.

### **Chemical Constituents:**

Black catechu contains about 10 % of acacatechin, which is insoluble in cold water and soluble in hot water. Acacatechin is also known as acaciacatechin. Acacatechin undergoes oxidation to catechutannic acid in presence of water and the latter constitutes about 30 % of the drug. The other contents of black catechu are catechu red, quercetin, and gum. Black catechu does not contain chlorophyll and also the fluorescent substance present in pale catechu.

### **Identification:**

1. With ferric chloride solution, it gives bluish-black colour.
2. Black catechu gives pink or red colour with vanillin and hydrochloric acid.
3. Lime water gives brown colour with aqueous solution of black catechu.

### **Uses:**

Kattha is used as an astringent, and for cooling and digestive purposes. It is used for relaxed condition of throat, mouth and gums and in cough and diarrhea.

Cutch is used for dyeing and tanning and as a preservative to fishing nets and sails, which are constantly exposed to water. Water softening, manufacture of stencil and printer inks are other uses of catechu.

### **GAMBIER CATECHU**

**Biological source:** Gambier or pale catechu is obtained as a dried aqueous extract prepared from leaves and young twigs of shrub, *Uncaria gambier* Roxburg (Family: Rubiaceae). The plant is grown in Malaysia and Indonesia.

The drug occurs in cubes, which are friable and may be broken in transit. The drug is cinnamon-brown in colour, odourless and porous, with astringent taste. When mounted in water, catechu shows minute, acicular crystals of catechin.

The pale catechu contains 22-50% catechutannic acid, 7-33 % catechin, catechu red, quercetin and gambirfluorescin. Catechutannic acid on decomposition yields insoluble, dark coloured phlobaphene catechu red, which is also present as an independent constituent.

#### **Chemical Tests:**

1. For catechin : It is a modification of test for lignin. Phloroglucinol formed from catechin, turns the match-stick red with hydrochloric acid
2. For gambier fluorescin : Extract powdered drug with alcohol. To the filtrate, add solution of sodium hydroxide, shake, add few drops of light petroleum, shake again and allow to stand. The petroleum layer acquires green fluorescence.
3. The chloroform extract of the drug in white porcelain dish shows greenish-yellow colour due to chlorophyll. The test is negative with black catechu.
4. With mixture of vanillin and HCl, it shows pink or red colour.