

# Diploma in Pharmacy 1<sup>st</sup> Year

## Pharmacognosy Practical

*To perform the physical and chemical tests of Black catechu*

### **Aim:**

To perform the physical and chemical tests of Black catechu.

### **Reference :**

Dr. Gupta G.D , Dr. Sharma Shailesh , Kaur Navjit , “Practical Manual of Pharmacognosy” Published by Nirali Prakashan , Pg.No 125 - 129

### **Biological Source :**

Black catechu is dried aqueous extract obtained from the heartwood of plant *Acacia catechu*. It belongs to family Leguminosae.

### **Materials and Apparatus Required**

Test tube, conical flask, beaker, water bath, matchstick, burner, ethyl alcohol NaOH, petroleum ether, conc HCl, vanillin hydrochloride reagent, lime water, ferric ammonium sulphate, sodium hydroxide, and chloroform.

### **Theory**

Black catechu occurs in black, shining pieces or cakes and is sold under the name of Catechu. It grows in deciduous trees reaching up to a height of 9-12m. This plant has short hooked spines and bi-pinnately compound green leaves with 50 pairs of feather-like leaflets.

## Physical Tests

- 1) **Form:** Irregular mass, outer surface is rough and dull and rarely glossy.
- 2) **Colour:** Black
- 3) **Odour:** Odourless.
- 4) **Taste:** Bitter in the beginning and astringent afterwards.
- 5) **Fracture:** Hard and brittle, and the broken surface is dark brown with a dull gloss and porous
- 6) **Surface:** Rough, dull or slightly glossy and porous
- 7) **Solubility:** Partially soluble in cold water and alcohol, completely soluble to hot water.

## Chemical Constituents

Black catechu contains tannic acid (7.5-35%), catechin (10-15%), acacatechin (2-12%), phlobatannin (25-35%), gum (20-30%), and quercitrin. Minor constituents of black catechu are quercetin, catechu red, and moisture

Acacatechin contains () epicatechin which is the trans-form of acacatechin. During the extraction of heartwood chips with boiled water, epicatechin undergoes epimerisation and racemisation to dl, acacatechin.

## Uses

### 1) Internal Uses

- i) It possesses cooling and digestive properties, hence used in GIT disturbance.
- ii) It is used in relaxed conditions of throat, mouth, and gums.
- iii) It is also used in cough and diarrhoea.

### 2) External Uses

- i. It is used as an astringent (property to precipitate the body protein).
- ii. It is applied to ulcers, boils and skin eruptions

3) **Industrial Uses:** It is an ingredient of betel leaf (Paan) and paan masala, so it is largely used in katha industry.

## Result :

The physical and chemical test of Black catechu was performed successfully.