

## **Aim - Determination of Ash content**

**Principle:** Ash refers to the inorganic (oxides, sulphates, phosphates, silicates and chlorides) residue remaining after either ignition or complete oxidation of organic matter in a foodstuff. Incinerating of the sample is done in a muffle furnace at  $500\pm 50^{\circ}\text{C}$  as such a high temperature burns off all organic materials. Ash is expressed as a percentage of difference in weight before and after ashing.

### **Materials:**

- Porcelain crucible
- Hot air oven
- Burner
- Muffle furnace
- Digital balance

### **Method:**

- Take accurately weight of a clean and properly dried porcelain crucible
- Weigh accurately 1-2 g of moisture free sample and
- Transfer the sample to previously weighed crucible
- Place the crucible in a muffle furnace at a temperature of  $500\pm 50^{\circ}\text{C}$  and incinerated for about 6 hours until a white ash will be obtained.
- Cool the crucible in desiccators.
- Take weight of crucible after cooling and repeats the process of weighing till constant reading was obtained.
- As ash is highly hygroscopic, weighing should be done quickly.

### **Calculation:**

Crude ash (% , wet weight) =

Where,

A = Weight of the empty crucible in grams

B = Weight of the crucible with sample before ashing in grams

C = Weight of crucible with ash after ashing in grams