

## 10.2 Determination of total ash

### Procedure

- Weigh accurately about 2-3 g of moisture free DCP / mineral mixture (As described under moisture estimation) in silica dish.
- Complete the ignition by keeping in a muffle furnace (Fig. 10.2) at 550°C for 2 hours.
- Cool in desiccator and weigh.
- Total ash in the moisture free sample can be calculated.



Fig. 10.2 Muffle furnace

### Calculation

$$\text{Total ash, per cent by mass} = \frac{100 (M_2 - M)}{M_1 - M}$$

Where,

$M_2$  = Mass in g of the dish with the material after ashing in muffle furnace at 550°C for 2 hours.

$M_1$  = Mass in g of the dish with the material after drying in vacuum oven at 60°C.

$M$  = Mass in g of the empty dish.

**Reference:** IS 1664: 2002.