Class IX

EXPERIMENT No: 8

AIM: To verify the law of conservation of mass in a chemical reaction.

Materials Required : Solid barium chloride, sodium sulphate, distilled water, two beakers (150 ml), one beaker (250 ml), digital balance, Polythene bag, spring balance (0-500g) two watch glasses & a glass rod.

Procedure :

1. Put 100 ml distilled water each in two beakers (150 ml)
2. Weigh 7.2 gram barium chloride in a watch glass and dissolve it in the beaker containing 100 ml of water.
3. Similarly weigh 16.1g of sodium sulphate (solid) in other watch glass & dissolve it in second beaker containing 100 ml g otistilled water.
4. Take third beaker of 250ml and put it in a polythene bag, weigh it with spring balance as shown in fig.)
5. Mix both solutions of 100 ml beakers in the third beaker (weighed) 250 ml & stir with using beaker (weighed) 250 ml & stir with using glass rod, a white precipitated is formed.
6. Weigh the beaker containing the reaction mixture (250ml) to determine the mass of the precipitate formed as product.
7. Now compare the masses of reactant and product as per the observation given below.

Observation :

a. Mass of 100 ml distilled water = 100g

b. Mass of solid barium chloride = 7.2g

c. Mass of solid sodium sulphate = 16.1g

d. Mass of barium chloride solution = 107.2g

e. Mass of sodium sulphate solution = 116.1g

f. Total mass of reactants (d+e) = 223.3 gram

g. Mass of empty beaker (250ml), m1 = ...g

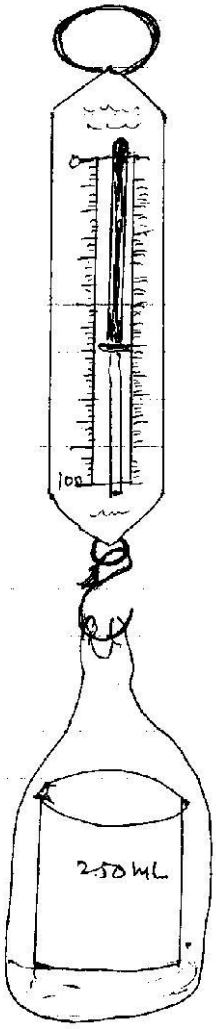
h. Initial mass of reactants & empty beaker
(before reaction) m_3 = (m_1 + f) = ... g

I. Final mass of prrduct in the beaker
(after reaction) m_3 = ... g

Inference : On comparing the m_2 with m_3, are same hence the law of conservation of mass stands verified.

Precaution :

1. Mixing of barium chloride and sodium sulphate solution be done slowly with constant stirring.
2. While weighing the beakers etc. the reading of spring balance should be noted very carefully.



Measuring the mass of beaker using spring balance.