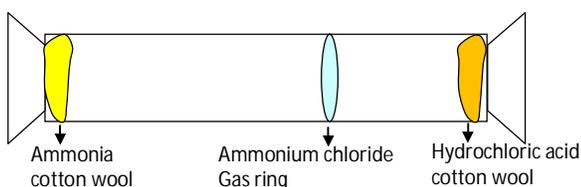


**EXPERIMENT - 1****SPEED OF DIFFUSION**

**Aim** : To observe the speed of diffusion of two gases.

**Required** : Glass tube (1 m) , Hydrochloric acid, Ammonia solution, Cotton, rubber corks-2.

**Description** : The movement of molecules of air from one place to another place is called diffusion. The speed of diffusion is different for different substances. Gases diffuse quickly than solids and liquids. Different gases have different speeds of diffusion. Light gases diffuse quickly and heavy gases diffuse slowly.



**Procedure**: (1) Take the glass tube.

- (2) Take two pieces of cotton.
- (3) Soak one in hydrochloric acid solution and the other in Ammonia solution.
- (4) Keep the cotton wools at each ends of the glass tube separately.
- (5) Close the ends of the tube with rubber corks.
- (6) After few seconds a white colour gas ring is formed in the glass tube.
- (7) Measure the distance of the white gas ring from each of the cotton wools.

**Observation** :

- (1) A white colour gas ring is formed in the glass tube.
- (2) The distance of the white gas ring from HCl cotton wool = ..... cm.
- (3) The distance of the white gas ring from  $\text{NH}_3$  cotton wool = ..... cm.
- (4) The white colour gas ring is nearer to the HCl cotton wool.
- (5) It is sure that the Ammonia gas diffuses quickly.
- (6) This is because Ammonia is a light gas compared to Hydrogen chloride gas. They have different speeds of diffusion.

**Precautions** :

- (1) Take care while using Hydrochloric acid. (Dangerous)
- (2) Measure the distances carefully with out parallax error.

**Result** : Observed the speed of diffusion of two gases.

Ammonia gas diffuses quickly and Hydrogen chloride gas diffuses slowly.