

Class X

EXPERIMENT No: 1

AIM: To study the following properties of Acetic Acid ethanoic acid:

- i. Odour
- ii. Solubility in water
- iii. Effect on litmus (blue)
- iv. Effect on litmus (red)

Materials Required : 5% acid (Acetic acid), sodium hydrogen carbonate (solid), blue, & red litmus paper strips, distilled water, two beaker (100 ml), Four test tubes with stand, a dropper, lime water & passing tube.

Procedure : Study the properties of acetic acid (according to the following table).

Sr. No.	Experiment		ObservationInference
1.	Odour : Smell the sample of acetic acid carefully taken in a test tube.	It smells like vinegar	Acetic acid has vinegar
2.	Solubility : a. Add 1 ml of the given sample of acetic acid in 2 ml of water. b. Add more acetic acid in the above test tube	Acetic acid dissolves in water It also dissolves	Acetic acid is soluble in water Acetic acid is soluble in water in all proportions.
3.	Effect on litmus : With the help of dropper of acetic acid on (i) blue and (ii) red litmus paper	Only blue litmus paper turn red. Red litmus gives no colour change	Acetic acid is acidic in nature.
4.	Reaction with sodium hydrogen Carbonate : a. Take 1 ml of the acetic acid and add to it a pinch of sodium hydrogen. Carbonate	A brisk effervescence produces with a colourless gas	Acetic acid produce CO ₂ gas with sodium hydrogen carbonate.

	b. Pass CO_2 gas in Lime water.	Lime water turns milky.	Milky colour of lime water is insoluble in calcium carbonate.
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Result :

Acetic acid (ethanoic acid) has following properties :

- a. It has vinegar like smell.
- b. It is highly soluble in water
- c. It turns blue litmus to red.
- d. It produces CO_2 gas with sodium hydrogen.

Precautions :

1. Handle ethanoic acid very carefully.
2. Small amount of sodium hydrogen carbonate should be added in small amount of acetic acid to control intensity of CO_2 evolution.