

Practical No. 8

Aim : To study the physical and chemical properties of acetic (ethanoic) acid.

Apparatus : Test tubes, test tube stands etc.

Chemicals : Acetic acid, red and blue litmus solutions, sodium bicarbonate.

Procedure :

1. Take 2-3ml of acetic acid in a clean, dry test tube. Note down its colour and odour.
2. Add 4-5ml water to the acetic acid in the test tube and mix well.
3. Take 2ml of acetic acid in a test tube and add blue litmus solution to it. Do the same procedure for red litmus solution. Observe both the test tubes.
4. Take 2 ml of acetic acid in a test tube and add a pinch of sodium bicarbonate. Observe.

Observation and Inference / Conclusion :

Sr.No	Test	Observations	Inference
1	Odour	Odour like Vinegar	Acetic acid has vinegar like odour.
2	Solubility in water	Acetic acid ...Soluble... in water.	Acetic acid is soluble in water.
3	Effect on litmus		
a.	Blue litmus	Turns red	Acetic acid is acidic.... in nature.
b.	Red litmus	Does not change colour	
4	a. Reaction with sodium bicarbonate	a. Colourless and odourless gas bubbles are evolvedCO ₂ gas is evolved when acetic acid reacts with sodium bicarbonate.
	b. Pass this gas through lime water.	b. At first lime water turns milky, but if the gas is allowed to pass for some more time, the lime water becomes colourless again.	

Vinegar is used in each country of the world to impart sour taste to food materials and for preservation of pickles, sauce, ketchup, chutneys, etc.
Chemically vinegar is 4% acetic acid.

Multiple Choice Questions

- Vinegar used as preservative for pickles, is % aqueous solution of acetic acid.
a. 1 to 2 b. 5 to 8 c. 25 to 30 d. 100
- Acetic acid looks like ice due to freezing at °C.
a. 0 b. -10 c. 17 d. 4
- Acetic acid is
a. yellowish. b. colourless. c. white. d. pink.
- The functional group in ethanoic acid is
a. alcohol. b. aldehyde. c. ketone. d. carboxylic.
- 2ml ethanoic acid was taken in test tubes - A, B and C. 2ml, 4ml and 8ml of water was added to the test tubes A, B and C respectively. Which test tube will show clear solution?
a. only A b. only B c. only A and B d. all

: Exercise :

- Which microbe is used to extract ethanol from fruit juices and sugar molasses?
With the help of yeast *Saccharomyces cerevisiae*
ethanol is extracted from fruit juices and sugar molasses.
- Which main product is obtained by microbial fermentation as ethanol?
Ethanol, an alcohol is obtained by fermentation of carbon compounds.
- Give examples of beverages and chemicals obtained by microbial fermentation of different organic substances.
From *Lactobacillus brevis* 'coffee' is obtained.
Also,
from *Saccharomyces cerevisiae* 'cider' is obtained easily.
- Why the Study/ Checking chemical and physical properties of daily used substances/ material is essential?
By checking of chemicals, we can stop the expired chemicals. So it is very useful for many peoples. i.e., many lives can be saved by cheking the chemicals.
Therefore, It is essential for to check the chemicals daily.



Remark and Signature