Determine the pH of solutions of some salts using pH paper or universal indicator

Requirements

Test tubes, measuring cylinder, glass rod, pH paper, universal indicator solution, 0.1 M and 0.01 M solutions of some salts.

Procedure

1. **Using pH Paper.** Take a strip of pH paper and put 1-2 drops of the first salt solution on it with the help of a glass rod. Observe the colour on the pH paper. Compare, the colour of the pH strip with the 'pH indicator chart' and estimate the pH of the solution.
Repeat the process with different salt solutions and record the observations in the data table.
2. **Using Indicator Solution.** Take some clean and dry test tubes and put about 5.0 mL of one of the salt solutions in each test tube. Now add 3-4 drops of universal indicator solution to each test tube by means of a dropper. Swirl the solutions until the colours become uniform.Compare the colour of each solution with the 'pH indicator chart' and estimate the pH of the solution.

Observations And Results

Approximate pH of Some Salt Solutions

Salt Solution	For pH paper		For indicator solution	
	Colour produced on pH paper	Approximate pH	Colour produced in solution	Approximate pH
0.1 M CH_3COONa 0.01 M CH_3COONa				
0.1 M Na_2C0_3 0.01 M Na_2C0_3				
0.1 M $FeCl_3$ 0.01 M $FeCl_3$				
0.1 M $BaCl_2$ 0.01 M $BaCl_2$				
o.1 M NaCl 0.01 M NaCl				
0.1 M NH_4Cl 0.01 M NH_4Cl				

0.1 M

$(NH_4)_3PO_4$

0.01 M

$(NH_4)_3PO_4$

Conclusion

The aqueous solutions of salts of weak acids and strong bases have pH ….. .
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