

EXPERIMENT 26: HYDROLYSIS

Equipment: 5 test tubes, rack, glass rod.

Materials: red and blue litmus paper, 1-2g of the following: NaCl, Na₂CO₃, Na₃PO₄, Al₂(SO₄)₃, AlCl₃, NH₄Cl, (NH₄)₂SO₄, wood splints (as spatulas).

In this experiment you will learn why some highly basic household cleaning agents do not have to contain KOH or NaOH and why "excess stomach acid" can be neutralized with NaHCO₃.

A. Dissolve a pinch of NaCl in about 1/3 test tube of water. Dissolve similar amounts of Na₂CO₃ and Na₃PO₄ in each of two other test tubes. Test each of these solutions with red and blue litmus paper and with pH paper. Enter your findings in the table below.

1. Which ion must be in excess in order to cause the results observed in two of the test tubes?

2. What is the source of this ion? _____

B. Dissolve a pinch of Al₂(SO₄)₃ or AlCl₃ in about 1/3 test tube of water and a similar amount of NH₄Cl or (NH₄)₂SO₄ in another test tube of water. Test each solution with red and blue litmus paper and with pH paper. Enter your findings in the table below.

3. Which ion must be in excess in order to cause the results observed? _____

4. What is the source of this ion? _____

Table I

| SALT SOLUTIONS USED | EFFECT ON LITMUS | pH | ION IN EXCESS | |
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