Honors Chemistry Lab Activity 23.2: Hydrolysis

Name:

Date:

Objective: First, predict whether various salts will undergo hydrolysis, and then test the salts with indicators to verify your predictions.

Hypothesis: Fill out the table below to predict what will happen when the following salts are dissolved in water and what type of solution will result.

Salt	Formula	Acid ID and Strength	Base ID and Strength	Hydrolysis (Y/N)	Acidic / Basic / Neutral
aluminum sulfate					
potassium chloride					
sodium carbonate					

Materials:

- three salts to test
- spot plate reaction wells
- spatulas
- deionized water
- stirring rod
- wash bottle
- red and blue litmus paper
- watch glass

Procedure:

1) Be sure the spot plate reaction wells are clean and dry.
2) Add a few crystals of the three salts in the order they are given in your hypothesis to the first three wells of your spot plate using clean spatulas. Be careful not to get them contaminated.
3) Add 20 drops (1 ml) of deionized water to each well.
4) Place a piece of red and blue litmus paper not touching each other on a clean watch glass.
5) Mix the salt with the water in well number one with a clean stirring rod and then touch the stirring rod to the litmus papers to transfer a drop of the salt solution. Record the results in your data table. Use forceps to place the litmus papers in the wastebasket.
6) Rinse the watch glass and the stirring rod with deionized water. Dry them and put them away.
7) Repeat steps 4 through 6 until you have tested all 3 salts. Record your results in the data table on the next page.

SALT ↓	Red Litmus Paper Color	Blue Litmus Paper Color	Acidic / Basic / Neutral	Hydrolysis (Y/N)
aluminum sulfate				
potassium chloride				
sodium carbonate				

Questions:

1. What is hydrolysis?

_____

_____

2. Determine whether the following salts would undergo hydrolysis by giving the acid and base that they would be formed from and their strengths like you did in the hypothesis. If you think it will hydrolyze, will it be acidic (A) or basic (B)?

Salt	Formula	Acid ID and Strength (W or S)	Base ID and Strength (W or S)	Hydrolysis (Y/N)	Acidic / Basic / Neutral
tin(II) chloride					
potassium nitrate					
calcium carbonate					
calcium sulfate					
barium chloride					
aluminum nitrate					
potassium acetate					
zinc sulfate					