Laboratory Exercise 7.1 | Exploring the Properties of Chemical Reactions

- 1. Use the graduated cylinder to measure 5 ml of water into one of the test tubes, and mark the level of the water with a pen. Dump out the water.
- 2. Get 5 ml of Hydrochloric Acid (HCl) solution from the teacher in the test tube, and place the test tube in the test tube rack.
- 3. Write the name and formula for each reactant in the table.

OBSERVE THE REACTION BETWEEN HYDROCHLORIC ACID AND MAGNESIUM.

- 4. Put the Magnesium strip into the solution, and notice the gas being produced.
- 5. Identify the gas by passing a flaming splint over the mouth of the test tube. Record the name and formula of the gas as one of the products.

IDENTIFY THE SECOND REACTANT.

- 6. When the reaction is over, pour a small amount of the solution in the watch glass.
- 7. Put the watch glass on the hot plate, and let the water evaporate. There should be a white, crystalline solid on the watch glass.
- 8. Determine and record the name and formula of this product.
- 9. Clean everything up with water.



Before Water Evaporates



5ml

of

HCI

5ml

mark

After Water Evaporates

SET UP FOR THE REACTION BETWEEN LEAD(II) CHLORIDE AND POTASSIUM IODIDE.

- 1. In one test tube, get a small amount of Lead (II) Chloride from the teacher.
- 2. In the other test tube, get a small amount of Potassium Iodide from the teacher.
- 3. Fill in the names, formulas and appearance of these two reactants in your data table.
- 4. Add a small amount of distilled water to each test tube, and record appearance of the reactants in water in your data table.
- 5. Without spilling the contents, set both test tubes in the 250 ml beaker.
- 6. Set the beaker on the triple-beam balance and record the mass of the beaker and the two test tubes of solution into **Mass Before Reaction**.

LEAVE THE BEAKER ON THE BALANCE. OBSERVE THE REACTION AND MEASURE THE MASS OF THE PRODUCTS.

- 7. **Without moving the beaker**, pick up one test tube and carefully dump the contents into the other test tube.
- 8. Put the empty test tube back exactly where it was, and record the mass of everything now under Mass After Reaction.
- 9. Record the appearance of the solution now.
- 10. Allow the solution to stand overnight. The following day, pour a small amount of the solution in the watch glass and let the water evaporate. As in part 1, there should be a white, crystalline solid on the watch glass.

OBSERVE THE REACTION OF ALKASELTZER IN ROOM TEMPERATURE WATER.

- 1. Measure and record the mass of an AlkaSeltzer Tablet.
- 2. Put 200 ml of room temperature water into a 250 ml beaker and record its temperature.
- 3. Drop the AlkaSeltzer Tablet in the water and use the stopwatch to time how long it takes for the tablet to complete react (disappear). Record the time.
- 4. Dump the solution in the sink.

OBSERVE THE REACTION OF ALKASELTZER IN HOT WATER.

- 5. Measure and record the mass of a second AlkaSeltzer Tablet.
- 6. Put 200 ml of hot water from the teacher's station into a 250 ml beaker and record its temperature.
- 7. Drop the AlkaSeltzer Tablet in the water and use the stopwatch to time how long it takes for the tablet to complete react. Record the time.
- 8. Dump the solution in the sink.

OBSERVE THE REACTION OF ALKASELTZER IN ICE WATER.

- 9. Measure and record the mass of a third AlkaSeltzer Tablet.
- 10. Put 200 ml of ice water from the teacher's station into a 250 ml beaker and record its temperature.
- 11. Drop the AlkaSeltzer Tablet in the water and use the stopwatch to time how long it takes for the tablet to complete react. Record the time.
- 12. Dump the solution in the sink.

OBSERVE THE REACTION OF ALKASELTZER WHEN BROKEN INTO SMALL PIECES.

- 13. Measure and record the mass of a fourth AlkaSeltzer Tablet.
- 14. Put 200 ml of room temperature water from the teacher's station into a 250 ml beaker and record its temperature.
- 15. Break the AlkaSeltzer Tablet into 8-10 pieces.
- 16. Drop the pieces into the water and use the stopwatch to time how long it takes for the tablet to complete react. Record the time.
- 17. Dump the solution in the sink.