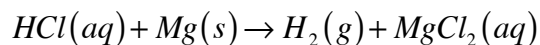


Reaction Rate Lab

Purpose

To determine the rate of production of hydrogen gas in the reaction:



Procedure

Part A

1. Set up the gas collection apparatus.
2. Combine 20 mL of 1.0 M HCl with a 3.50 cm sample of magnesium metal, as described below:
 - a) Place the magnesium ribbon in a copper wire basket that is attached to a 1 hole rubber stopper.
 - b) Add the HCl to the gas collection tube.
 - c) Carefully add water to the gas collection tube until it is completely full.
 - d) Insert the rubber stopper and invert the gas collection tube.
 - e) Place the tube in a titration clamp, so that the stoppered end of the tube is immersed in a bucket of water.
3. Record the volume of water displaced (gas produced) in the gas collecting tube every 10 – 30 seconds.
4. Continue to record the volume of gas produced until you feel that you have sufficient data.

Part B

1. Set up the gas collection apparatus.
2. Combine 20 mL of 2.0 M HCl with a 3.50 cm sample of magnesium metal, as described below:
 - a) Place the magnesium ribbon in a copper wire basket that is attached to a 1 hole rubber stopper.
 - b) Add the HCl to the gas collection tube.

- c) Carefully add water to the gas collection tube until it is completely full.
 - d) Insert the rubber stopper and invert the gas collection tube.
 - e) Place the tube in a titration clamp, so that the stoppered end of the tube is immersed in a bucket of water.
3. Record the volume of water displaced (gas produced) in the gas collecting tube every 10 – 30 seconds.
 4. Continue to record the volume of gas produced until you feel that you have sufficient data.

Part C

1. Set up the gas collection apparatus.
2. Combine 20 mL of 3.0 M HCl with a 3.50 cm sample of magnesium metal, as described below:
 - a) Place the magnesium ribbon in a copper wire basket that is attached to a 1 hole rubber stopper.
 - b) Add the HCl to the gas collection tube.
 - c) Carefully add water to the gas collection tube until it is completely full.
 - d) Insert the rubber stopper and invert the gas collection tube.
 - e) Place the tube in a titration clamp, so that the stoppered end of the tube is immersed in a bucket of water.
3. Record the volume of water displaced (gas produced) in the gas collecting tube every 10 – 30 seconds.
4. Continue to record the volume of gas produced until you feel that you have sufficient data.