

# Reaction Types Lab

(Honors Chemistry)

## REACTION 1: \_\_\_\_\_

- 1) Hold a 3 inch piece of magnesium ribbon with a pair of tongs.
- 2) Hold the magnesium over the flame of the Bunsen burner until it ignites. Do not stare at the flame!  
➤ *Hint: For the magnesium to ignite, what must it be reacting with?*
- 3) When the flame goes out, gently tap the product onto the watch glass after it is completely done burning.
- 4) Rinse the watch glass and dispose of the product in the sink.

Q1: As the magnesium is burning, do you see smoke or just a flame? What does this mean?

Q2: Is the substance on the watch glass just like the magnesium you started with? Explain.

Q3: Is there one or two substances on the watch glass? What does this mean?

*Write the balanced chemical equation including physical states:*

## REACTION 2: \_\_\_\_\_

- 1) Add about 25 drops of hydrogen peroxide into a test tube.
- 2) Using the scoopula, add a small pinch of the "catalyst" manganese dioxide.
- 3) Cover the test tube with a rubber stopper for 30 seconds.
- 4) Light a wooden splint, blow it out, and stick the glowing end into the test tube. **Not in the liquid!!!**  
➤ *Hint: the flame is only to test for the presence of a gas, it is not part of the reaction.*
- 5) Dispose of all chemicals in the sink and rinse out the test tube.

Q1: After adding the catalyst, did you see a change in the hydrogen peroxide? Explain.

Q2: What happened to the glowing end of the wooden splint when placed in the test tube?

*Write the balanced chemical equation including physical states:*

**REACTION 3:** \_\_\_\_\_

- 1) Place a piece of zinc metal in a test tube.
- 2) Quickly add 15 drops of 6-M HCl and cover the test tube with a rubber stopper for 20 seconds.
- 3) Light a wooden splint, stick the lit end into the test tube. Not in the liquid!!!
  - *Hint: the flame is only to test for the presence of a gas, it is not part of the reaction.*
- 4) Dispose of all chemicals in the sink and rinse out the test tube.

Q1: Did you see a change in the zinc metal or the HCl?

Q2: If a reaction occurred, was there any evidence of gas production? Explain.

Q3: What happened to the glowing end of the wooden splint when placed in the test tube?

*Write the balanced chemical equation including physical states:*

**REACTION 4:** \_\_\_\_\_

- 1) Add 10 drops of barium nitrate to a test tube.
- 2) Add 10 drops of aluminum sulfate to the same test tube.
- 3) Swirl the solutions in the test tubes for 10 seconds and look for a precipitate.
  - *Hint: if a precipitate is present, the solution will have a solid present or appear milky or cloudy.*
- 4) Dispose of all chemicals in the sink and rinse out the test tube.

Q1: Do you see any change after mixing the two solutions?

Q2: Did you notice gas production, color changes, or precipitate formation? If, explain what happened.

*Write the balanced chemical equation including physical states:*

**REACTION 5:** \_\_\_\_\_

- 1) Add 10 drops of aqueous copper (II) nitrate to a test tube.
- 2) Add 10 drops of aqueous sodium carbonate to the same test tube.
- 3) Swirl the solutions in the test tubes for 10 seconds and look for a precipitate.
  - *Hint: if a precipitate is present, the solution will have a solid present or appear milky or cloudy.*
- 4) Dispose of all chemicals in the sink and rinse out the test tube.

Q1: Do you see any change after mixing the two solutions

Q2: Did you notice gas production, color changes, or precipitate formation? If, explain what happened.

*Write the balanced chemical equation including physical states:*

**REACTION 6:** \_\_\_\_\_

- 1) Place a 1 cm piece of copper metal in a test tube.
- 2) Quickly add 15 drops of 6-M HCl. Cover the test tube with a rubber stopper for 15 seconds.
- 3) Light a wooden splint and stick the lit end into the test tube. Not in the liquid!!!
  - *Hint: the flame is only to test for the presence of a gas, it is not part of the reaction.*
- 4) Dispose of all chemicals in the sink and rinse out the test tubes.

Q1: Do you see a change in the copper metal or the HCl?

Q2: If a reaction occurred, was there any evidence of gas production? Explain.

Q3: What happened to the glowing end of the wooden splint when placed in the test tube?

*Write the balanced chemical equation including physical states:*

**REACTION 7:** \_\_\_\_\_

- 1) Place a 1 cm piece of magnesium metal in a test tube.
- 2) Quickly add 15 drops of 6-M HCl. Cover the test tube with a rubber stopper for 15 seconds.
- 3) Light a wooden splint and stick the lit end into the test tube. Not in the liquid!!!
  - a. *Hint: the flame is only to test for the presence of a gas, it is not part of the reaction.*
- 4) Dispose of all chemicals in the sink and rinse out the test tubes.

Q1: Do you see a change in the magnesium metal or the HCl?

Q2: If a reaction occurred, was there any evidence of gas production? Explain.

Q3: What happened to the glowing end of the wooden splint when placed in the test tube?

*Write the balanced chemical equation including physical states:*

**REACTION 8:** \_\_\_\_\_

- 1) Add 10 drops of magnesium chloride to a test tube.
- 2) Add 10 drops of sodium hydroxide to the same test tube.
- 3) Swirl the solutions in the test tube for 10 seconds and look for a precipitate.
  - *Hint: if a precipitate is present, the solution will have a solid present or appear milky or cloudy.*
- 4) Dispose of all chemicals in the sink and rinse out the test tube.

Q1: Do you see any change after mixing the two solutions

Q2: Did you notice gas production, color changes, or precipitate formation? If, explain what happened.

*Write the balanced chemical equation including physical states:*