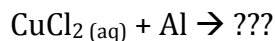


Aluminum and Copper Chloride Activity

Chemistry; Coleman

Background: In this lab you will be observing the reaction between copper (II) chloride (in solution) and aluminum. The equation for the reaction starts like this:



Purpose: Observe a chemical reaction and identify the indications of a chemical change.

Materials:

- beakers
- 0.5 M Copper (II) chloride, CuCl_2
(aq)- solution
- Glass stirring rod / Thermometer
- Safety glasses
- Aluminum foil

Safety: Wear safety glasses. Do **not** touch the blue copper chloride solution as it is toxic and irritating to the skin. If it touches you, wash with lots of water and notify the teacher. Be careful with glassware.

Notify teacher of any accidents immediately.

Procedure:

1. Record observations about the piece of aluminum foil.
2. Tear up the aluminum foil into tiny pieces.
3. Pour approximately 40 mL of CuCl_2 (aq) solution into a clean, empty beaker. Record observations about the solution including its temperature in °C. Include at least two qualitative and two quantitative observations.
4. Add the aluminum to the CuCl_2 solution. **DO NOT PUT YOUR FACE RIGHT OVER THE BEAKER.**
5. Make as many observations as possible.
6. Stir with the thermometer while you watch. Does stirring affect the reaction? Record observations and the highest temperature reached.
7. When you are done, carefully pour liquid into sink. Rinse thermometer. Dump solid into teacher's waste container.
8. Carefully observe the teacher demo and record observations.

Make a data table on a separate sheet of paper that contains all the observations and measurements obtained during the lab procedure.

Post Lab Analysis:

1. What was the only physical change you did in the lab?
2. What evidence did you observe that shows a chemical reaction took place? Give at least three examples.
3. What is a chemical property of aluminum that you observed in this lab?
4. Copper compounds usually have a blue or green color. What evidence is there that the aluminum is removing the copper from solution?
5. Describe the solid material. What do you think it is? What is your evidence?

Lab Write up: ON A SEPARATE SHEET OF PAPER

1. Include a data table for all the observations and measurements taken during the procedure.
2. Answer the post lab analysis questions in complete sentences.