

Worksheet for Activity 4.2

Copper (II) chloride and aluminum

Materials

- copper (II) chloride (CuCl_2)
- beaker
- aluminum (Al)
- water (from tap)
- scoop
- funnel
- filter paper
- Erlenmeyer flask
- evaporation dish

Safety warning

Copper (II) chloride is toxic and causes eye irritation. Be sure to wear safety goggles at all times. In case of eye contact, flush eyes with water for at least 15 min.

Copper (II) chloride is also toxic to fish and algae in water. Do NOT dump down the drain.

Investigate

Record your observations of the substances CuCl_2 and Al.

CuCl_2	
Al	

1. Mix a small scoop (pea-sized) of the CuCl_2 with about 20 mL of water in the empty beaker.
2. Stir the mixture to dissolve the copper (II) chloride, make sure the solution is no longer cloudy.
3. Tear the aluminum foil into small pieces. Add about ten small pieces of the foil to the beaker and mix.

Record your observations of the reaction.

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4. Allow the reaction to continue until the blue color is gone. You may need to add some additional pieces of aluminum foil.
5. After the blue color is gone, filter the solution using the filter paper and funnel. Fold the filter paper into a cone and place it in the funnel. Place the funnel in the Erlenmeyer flask and pour everything from the beaker through the filter.

After the solution is filtered, record your observations of any substance left on the filter paper and the liquid in the flask.

substance(s) left in filter paper	
substance(s) in flask	

6. Pour some of the liquid from the flask into the evaporating dish.
7. Set the dish aside to allow the water to evaporate.

After a few days, return to the evaporating dish and record observations of any substance(s) that are left after the water evaporated.

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