

SALS Activity 10

Introductory chemistry precipitation reaction

A precipitation reaction takes place when separate solutions containing soluble ions combine to form an insoluble product, otherwise known as a precipitate.

Materials

SALS app downloaded onto iPhone or iPad

SALS probe

Iron rod

0.5 M Copper(II) sulfate solution (about 50 mL)

One 100 mL beaker

50 mL graduated cylinder or notched syringe

Rubber or latex gloves

Goggles

Caution

Copper sulfate is toxic and a potential irritant. Students must wear gloves and goggles during all steps of this activity.

Directions

1. Students must wear gloves and goggles. Fill a 100 mL beaker half full with copper sulfate solution using the 50mL graduated cylinder or notched syringe.
2. Take an initial tone/Hertz reading of the iron rod and save or record it.
3. Run a gloved hand up and down the iron rod and take note of any tactile observations.
4. Place the iron rod in the copper sulfate solution and leave it in a safe place such as a fume hood or a corner of the classroom or laboratory.
5. Tactually check the iron rod every 2 hours throughout the school day under the same ambient light conditions, making sure to wear gloves and goggles each time. At each time interval, make a measurement with the SALS probe and save or note down the tone/Hertz values.

Questions to answer

1. What changed about the rod?

2. Why do you think this change occurred?

3. Using your knowledge of chemistry and displacement reactions write a chemical equation that supports a hypothesis explaining the results of this activity.