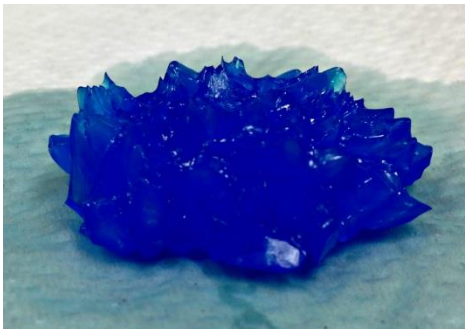
California State University of Bakersfield, Department of Chemistry

Copper Sulfate Crystals



Standards:

2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

5-PS1-3. Make observations and measurements to identify materials based on their properties.

5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred**.**

Introduction:

Copper sulfate crystals have many practical applications such as it is used as a herbicide, fungicide, and pesticide. Perhaps the most prevalent use of copper sulfate is it is used in swimming pools as an algicide. It is also used to treat aquarium fish for parasitic infections. But in our case we are going to use them to make big crystal that can be seen as a precious rock.

Materials:

- Copper Sulfate
- 600 ml beaker
- Hot Plate
- Stirring rod
- Plastic plate

- Nylon fishing string
- Water

Safety:

- Copper Sulfate is poisonous and stains everything porous
- Always wear eye protection and gloves when doing chemistry experiments

Procedure:

1. Make a supersaturated solution by heating up some water and adding copper sulfate until no more will dissolve.
2. Let solution cool and fill a plastic plate with the solution.
3. Let that solution sit for a day or two to grow seed crystals or you can let it sit for a week or so to grow big flat crystals.
4. To grow big rock like crystal tie a seed crystal with a nylon fishing string and suspend in the remaining solution that you have made before.
5. Crystal's growth could take a long time ~ 3 days.

Data and Observations:

What did you see? Anything you were not expecting?

References:

1. Helmenstine, Ph. D, Anne Marie. Copper Sulfate Crystals. chemistry.about. http://chemistry.about.com/od/crystalrecipes/a/coppersulfate.htm (accessed July 31, 2013)