УДК 548.54

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CRYSTAL GROWING

Crystal growing is the most interesting and exciting process of experimental chemistry. There are a great number of crystals, but copper sulfate crystals are among the most beautiful crystals. The brilliant blue crystals can be grown relatively quickly and can become quite large.

Here what you'll need to start work on growing the crystals: copper sulfate (you can buy it in anyhousehold store), container for the solution (a jar with a wide neck), base for crystallization (a thin woolen thread of a blue or black color), boiled water, pencil or stick to hold the base andtransparent nail polishto preserve crystals.

The process of crystal growing is divided into 4 stages.

The first stage is the preparation of solution with high concentration. Water shouldbe around 80 degreesCelsius. Then we add copper sulfate (one spoonful at a time) and stir the liquid for the powder to dissolve completely. If the copper sulfate stops dissolving and begins sinking out, the solution is ready.

The second stage is crystal seeding.The container with the hot solutionshould be on a cooling surface until it cools down to room temperature. This is so the small crystals settle. Then we strain the solution through a layer of gauze, examine it and take the largest crystal of a regular shape. This will be used as a crystal seeding to continue the experiment.

The next stage is making the environment for growing the crystal. The strained solution should be reheated in a water bath, so that copper sulfate becomes oversaturated. If the resulting precipitate does not dissolve, repeat the straining. Then we tie the seeding and place it in the jar vertically, without touching the bottom or walls of the container. This can be achieved with a pencil: we tie the thread in the middle, and fix the pencil on the neck of the jar, for example with plasticine.

The last stage is the growth of the crystal. The container should be covered with a tissue and left for seven days in a motionless state. One week later, the thread is covered by small crystals, and the seeding crystal has increased in size. When the result is satisfactory, we dry the crystal and cover it with nail polish. This will provide the shining effect.

In this way it is possible to get a magnificent crystal which can be stored in a sealed container.