

DISTILLATION OF COPPER SULFATE

PURPOSE:

INTRODUCTION:

Distillation is the process of heating a liquid until it boils, capturing and cooling the resultant hot vapors, and the collecting of the condensed vapors. Mankind has applied the principles of distillation for thousands of years.

In the modern chemistry laboratory, distillation is a powerful tool, both for the identification and the purification of chemical compounds. Distillation is used to purify a substance by separating it from other substances with different boiling points. When different substances in a mixture have different boiling points, they separate into individual components when the mixture is carefully distilled.

SAFETY:

MATERIALS:

Bunsen Burner
Vented Stopper

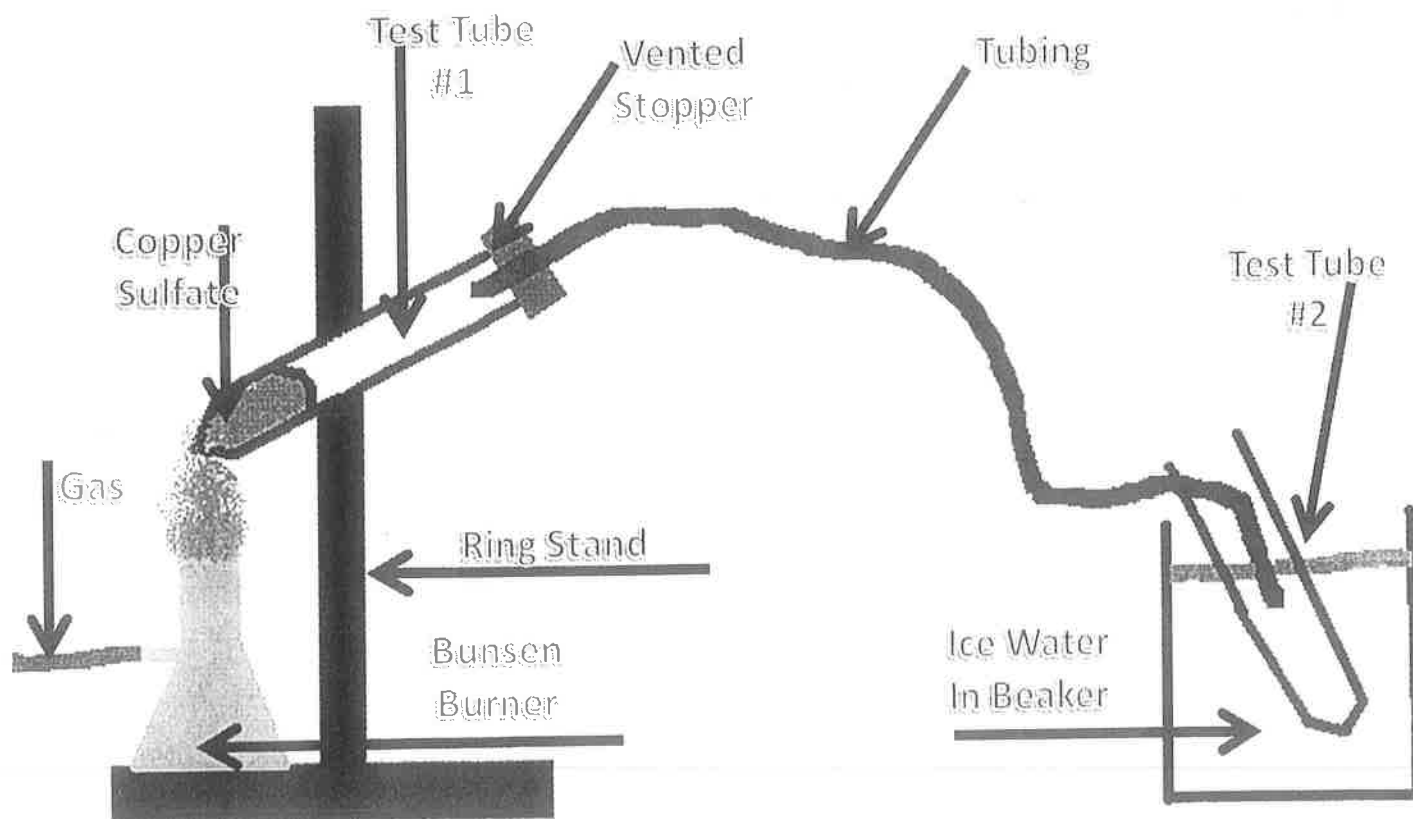
Striker
Tubing

Ring Stand
Beaker

Test Tube Clamp
Ice Water

Two test tube
Copper Sulfate

DISTILLATION APPARATUS SET UP:



PROCEDURE:

1. Make sure the distillation apparatus is correctly set up as shown in the diagram.
2. Pour 6ml of CuSO_4 in the first test tube.
3. Stopper the test tube with the vented rubber stopper.
4. Place the open end of the rubber tubing in a test tube that is submerged in ice water.
5. Heat the CuSO_4 gently for 10 minutes.

OBSERVATIONS:

1. What is the color of the solution in the first test tube?
2. What happens to the solution in the first test tube when it is heated?
3. What is the color of the solution in the second test tube?
4. Is there a solid in the first test tube? If yes, what is the solid?

QUESTIONS:

1. What is evaporation? Where does it occur in this experiment?
2. What is condensation? Where does it occur in this experiment?
3. What is distillation?