

EXPERIMENT: To determine the rate of diffusion of particles in a solid and a liquid

Problem statement:

What is the difference in the rate of diffusion between solids and liquids?

Hypothesis:

What is the difference in the rate of diffusion between solids and liquids?

Aim:

To determine the rate of diffusion of copper (II) sulphate in two states of matter.

Variables:

- a) Constant variable: Temperature
- b) Manipulated variable: Diffusion medium
- c) Responding variable: Rate of diffusion

Procedure:

A. Diffusion in a solid

1. Set up the apparatus as shown in Figure 1
2. Observe the changes after two days.
3. Record your observation.

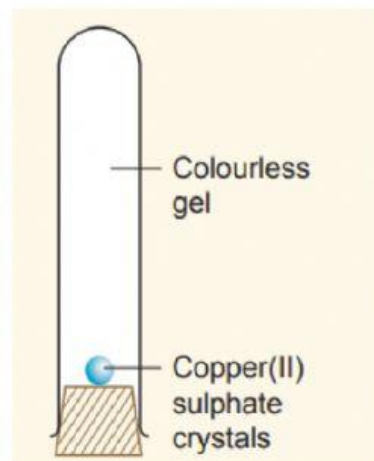


Figure 1

B. Diffusion in a liquid

1. Put in one spatula of copper (II) sulphate crystals into a measuring cylinder filled with 50 ml of distilled water (Figure 2).
2. Observe the changes after 15 minutes.
3. Record your observation.

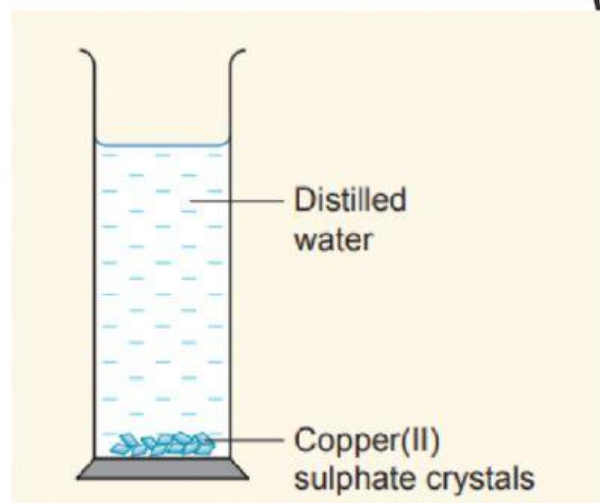


Figure 2

Result:

Activity	Observation
A	The gel turns _____ after a _____ The rate of diffusion of particles in a solid is _____
B	Water turns _____ after _____ The rate of diffusion of particles in a liquid is _____

Conclusion:

The rate of diffusion of particle in a liquid is _____ than the
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rate of diffusion of particles in a _____.

Hypothesis is _____
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