

Substances are made up of particles

Structure of substances and particle motion

Diffusion of liquids

Object of the experiment

1. Demonstrating diffusion in copper sulphate and water

Setup



- When the water layer is about 5 cm thick, the remaining water may be carefully poured directly into the self-supporting cylinder.
- Cover the self-supporting cylinder with the cover plate.

Observation

After one week, the sharp interlayer between the copper sulphate solution and the water has been dissolved.

The process can be observed until the two liquids are completely intermixed.

Evaluation

Due to thermal motion of the molecules, liquids of different types intermix spontaneously. This process is called diffusion. Diffusion depends on the temperature of the liquids.

Apparatus

1 Self-supporting cylinder, 200 ml, smooth-ground.....	664 214
1 Cover plate	664 218
1 Copper(II)-sulphate-5-hydrate, 250 g	672 9610
1 Measuring cylinder, 100 ml, set of 2.....	590 08ET2
1 Measuring beaker, PP, 1000 ml	604 211
1 Disposable syringe 20 ml	603 020
1 Glass stirring rod, 300 mm x 8 mm diam.	665 213
1 Water, pure, 5 l	675 3410

Carrying out the experiment

- Pour 100 ml of water into the measuring beaker, and add copper(II) sulphate pentahydrate until a concentrated copper sulphate solution is obtained.
- Pour the copper sulphate solution into the self-supporting cylinder.
- Rinse the measuring cylinder, and fill it with 100 ml of distilled water.
- Use the syringe to carefully cover the copper sulphate solution with a layer of distilled water.
- This is achieved by squirting the water out of the syringe so that it slowly runs down the inside wall of the self-supporting cylinder.