

## 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.