

Electrolysis using a microscale Hoffman apparatus – student sheet

In this experiment you will be investigating the electrolysis of sodium sulfate solution using a microscale Hoffman apparatus.

Instructions

1. Set up the Hoffman apparatus in a clamp.
2. Pour approximately 40 cm³ of the sodium sulfate solution into a beaker and add a few drops of bromothymol blue indicator. Note the colour of the solution.
3. Using a pipette carefully fill the electrolysis apparatus with the sodium sulfate solution.
4. Plug the tops of each stem with a small piece of Blu-Tack®.
5. Carefully attach the crocodile clips to the electrodes and record all your observations over the next 15 minutes.
6. Disconnect the leads and try to give explanations for your observations.

Question

Can you think of a way of testing for either of the gases that you have collected?

Health, safety and technical notes

1. Wear eye protection throughout.
2. Check the information sheet on microscale apparatus to find out more about setting up the Hoffman apparatus.
3. Sodium sulfate, Na₂SO₃(aq), 0.5 mol dm⁻³ is of low hazard.
4. Bromothymol blue solution is of low hazard.