

Edexcel Chemistry A-level

Practical 12

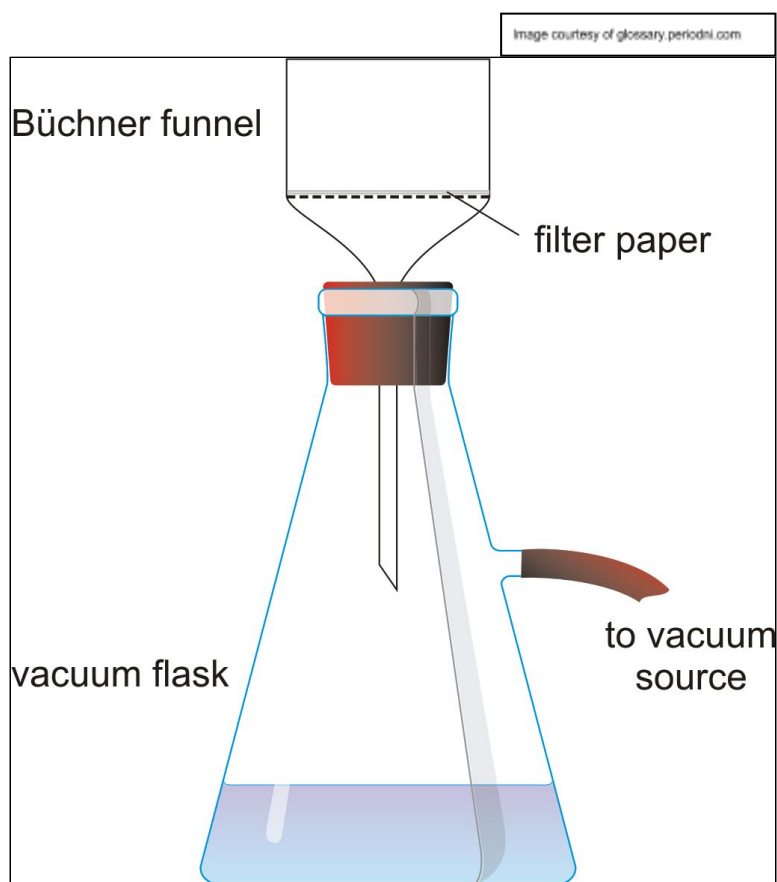
Preparing a transition metal complex.



Method

1. Weigh out the mass of copper sulphate accurately and dissolve in water.
2. In a fume cupboard, add concentrated ammonia.
3. Stir the mixture and pour into ethanol. Then, cool the mixture in ice bath. Crystals of product will form.
4. Set up the vacuum filtration apparatus with a Buchner funnel. Collect the crystals in the funnel. Wash the tube with cold ethanol and filter again, then wash the crystals with cold ethanol.
5. Leave crystals on the funnel for a bit to dry. Then, use two filter papers to dry the crystals even more.
6. Record the mass and calculate the percentage yield (relative to the hydrated copper sulfate).

Diagram



Safety

- Hydrated copper sulfate is **harmful to aquatic life**, therefore use in small quantities.

Errors

- Losses could be from the reaction not going to **completion** and product staying in solution (i.e. not crystallising out.)
- Gains could be from **impure or wet** crystals.

