Edexcel Chemistry A-Level

Core Practical 12 - Transition metal complex preparation

Flashcards

What is the method of preparing a transition metal complex?

What is the method of preparing a transition metal complex?

- Weigh out the mass of copper sulphate accurately and dissolve in water.
- In a fume cupboard, add conc. NH_3. Stir the mixture and pour into ethanol. Then, cool the mixture in ice bath. Crystals of product will form.
- Filter the crystals via vacuum filtration.
- Record the mass and calculate the percentage yield.

How do you use laboratory equipment to filter under reduced pressure?

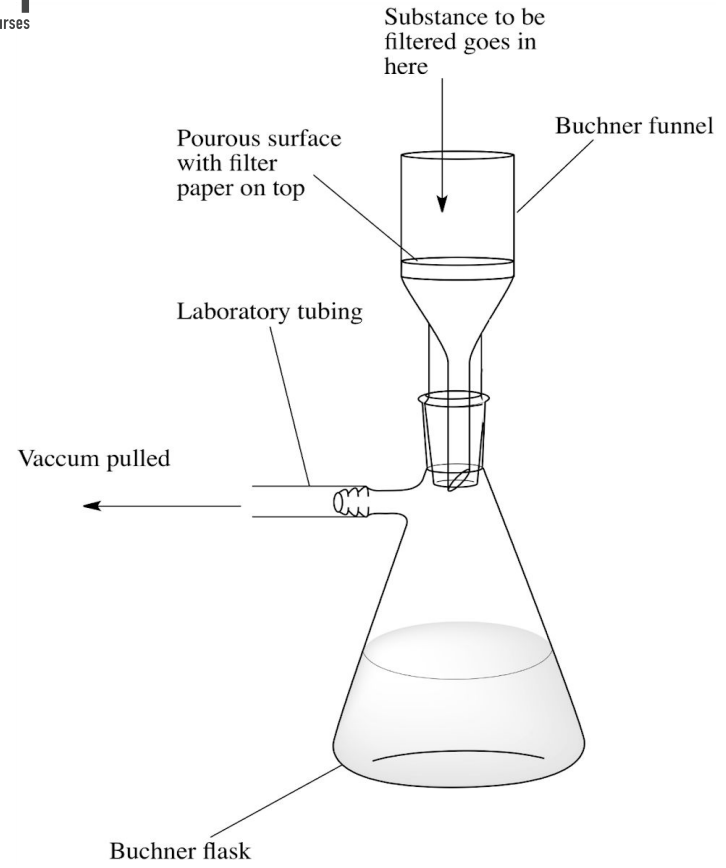
How do you use laboratory equipment to filter under reduced pressure?

Using a Buchner funnel and Buchner flask, connected by rubber tubing to the vacuum source.

- The funnel contains a layer of filter paper.
- Pour the substance onto the filter paper and the liquid will be sucked through via vacuum filtration into the flask. Wash the solid with cold solvent.
- The solid will remain on the paper.

What does a diagram of filtration under reduced pressure look like?

What does a diagram of filtration under reduced pressure look like?



How do we prevent solid being lost in vacuum filtration?

How do we prevent solid being lost in vacuum filtration?

Wash the transferring flask / tube with solvent (i.e. ethanol) and pour onto the filter paper in the buchner funnel.

How do you calculate the percentage yield of a product?

How do you calculate the percentage yield of a product?

Percentage yield =

$$\frac{Actual\ yield}{Theoretical\ yield} \times 100$$

What is a fume cupboard used for?

What is a fume cupboard used for?

To capture and then remove hazardous substances generated during experiments in the laboratory.

What are some potential hazards and risks in the laboratory?

What are some potential hazards and risks in the laboratory?

Hazard	Risk	Control
Ethanol	Very flammable.	Handle with care. Wear eye protection. Keep away from the edge of the desk and from an open flame.
Copper salts	Corrosive, irritant, bad for environment.	Handle with care and with gloves on. Wear eye protection. Don't pour down sink.
Glassware i.e beakers, test tubes.	May break and cut you.	Handle with care. Keep away from edge of the desk.