AQA Chemistry A-Level

RP1 - Making up a standard solution and carrying out an acid-base titration

Flashcards

What is a standard solution?

What is a standard solution?

A standard solution is a solution of known concentration.

How do you make a standard solution?

How do you make a standard solution?

- Measure, using a balance, the mass of solid required.
- Transfer this to a volumetric flask and rinse the remaining weighing bottle content (with distilled water) into the flask so no solid is lost.
- Add a volume of distilled water to dissolve the solid. Swirl to mix.
- Then add more distilled water up to the line on the volumetric flask. Invert multiple times to mix.

What is the weighing by difference technique?

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- It is a method to weigh materials accurately.
- Mass of substance = Mass of weighing dish and substance - Mass of dish after substance has been transferred.

What equipment is used to carry out a titration?

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- A pipette and pipette filler are used to accurately measure out the volume of a reactant before transferring it to a conical flask.
- A burette is used to add small volumes of one reactant to the other reactant (until the reaction has reached completion).

How do you carry out a titration?

How do you carry out a titration?

- Once the pipette has been used to place one reactant into the conical flask, fill the burette with the other reactant. Record initial volume.
- Add a few drops of indicator to the conical flask.
- Open the burette tap and allow the reactant to flow into the conical flask, swirling it to mix the contents.
- Close the burette tap once the expected colour change occurs. Use a white tile so the colour change is easy to identify.
- Record final burette volume.
- Repeat until you get concordant results, then calculate a mean titre.

Why are acid-base indicators used?

Why are acid-base indicators used?

To detect when a reaction reaches completion, usually by the presence of a colour change.

What are concordant results?

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Titres that are within 0.1 cm^3 of each other.

What are some common potential hazards and risks in the laboratory?

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Hazard	Risk	Control
Bunsen burner	Burns.	Keep away from flammable chemicals and away from the edge of the desk.
Chemicals	- May be an irritant or corrosive, causing irritation to skin, eyes, lungs. - May be toxic - May be Flammable.	Handle with care and while wearing gloves. Wear eye protection. Keep away from the edge of the desk and from an open flame. Don't ingest.
Glassware i.e beakers, test tubes.	May break and cut you.	Handle with care. Keep away from edge of the desk.