

The pH Scale and Salts

Chapter 2: Acids, Bases and Salts · Topic 2

Key Concept

pH is measured using indicators like universal indicator (which shows a range of colours) or precise instruments like a pH meter. Human blood maintains a slightly basic pH of about 7.4, and even small deviations can be dangerous, showing why pH regulation matters biologically. Salts, formed from neutralisation, are classified based on their source acid and base: a salt from a strong acid and strong base (like NaCl from HCl and NaOH) is neutral, while a salt from a strong acid and weak base tends to be acidic, and vice versa.

Quick Revision Notes

- pH scale: 0-14; below 7 = acidic, 7 = neutral, above 7 = basic.
- Neutralisation: acid + base $\rightarrow$ salt + water, resulting in a neutral (or near-neutral) solution.
- Human blood maintains a pH of about 7.4; small deviations can be dangerous.
- Salt type depends on its parent acid/base: strong+strong = neutral salt, others vary.

Practice Questions

- 1 Name the salt and by-product formed when hydrochloric acid reacts with sodium hydroxide.
- 2 Explain what happens to pH during a neutralisation reaction.
- 3 Why is it important for the human body to maintain a stable blood pH?