

Types of Chemical Reactions

Chapter 1: Chemical Reactions and Equations · Topic 1

Key Concept

Decomposition reactions can be thermal (using heat, like heating calcium carbonate to form lime), photolytic (using light, like silver chloride decomposing in sunlight), or electrolytic (using electricity, like electrolysis of water). Displacement reactions follow the reactivity series — a more reactive metal like zinc will displace a less reactive metal like copper from copper sulphate solution. Double displacement reactions, like the reaction between silver nitrate and sodium chloride to form a precipitate of silver chloride, are often identified by the formation of an insoluble precipitate.

Quick Revision Notes

- Combination reaction: two or more substances combine into one product.
- Decomposition reaction: one compound breaks into simpler substances (thermal, photolytic, or electrolytic).
- Displacement reaction: a more reactive element displaces a less reactive one.
- Double displacement reaction: exchange of ions, often forming a precipitate.

Practice Questions

- 1 Classify the reaction: $AB + CD \rightarrow AD + CB$.
- 2 Give one example each of a thermal and photolytic decomposition reaction.
- 3 Explain how the reactivity series helps predict displacement reactions.