

Mixtures - Types and Separation

Chapter 8: Nature of Matter: Elements, Compounds, and Mixtures · Topic 2

Key Concept

The method used to separate a mixture depends on the properties of its components — magnetic separation works for mixing magnetic materials like iron filings with non-magnetic ones like sand; filtration separates insoluble solids from liquids; and distillation separates a homogeneous mixture like saltwater into its pure components. Unlike compounds, mixtures do not have a fixed composition — you can mix salt and water in varying proportions and still have 'salt water,' just more or less concentrated.

Quick Revision Notes

- A mixture is a physical combination of substances, unlike a compound (a chemical combination).
- Homogeneous mixtures (like salt water) have uniform composition; heterogeneous mixtures (like sand and stones) do not.
- Separation methods depend on the properties of components (magnetism, solubility, etc.).
- Mixtures do not have a fixed composition ratio, unlike compounds.

Practice Questions

- 1 Classify sugar solution and a mixture of sand and stones as homogeneous or heterogeneous.
- 2 Explain the difference between a mixture and a compound.
- 3 Suggest a method to separate a mixture of iron filings and sulphur powder.