

Why We Need to Separate Substances

Chapter 9: Methods of Separation in Everyday Life · Topic 1

Key Concept

The method chosen for separation depends on the physical properties of the substances involved, such as particle size, density, solubility, or boiling point. For example, sand and salt can be separated because salt dissolves in water while sand does not; iron filings mixed with sand can be separated using a magnet, since iron is magnetic and sand is not. Understanding why and how we separate substances is essential not just in the kitchen, but also in industries like water treatment, mining, and pharmaceuticals.

Quick Revision Notes

- Substances are separated to remove impurities, obtain useful components, or purify a mixture.
- The choice of separation method depends on physical properties like solubility, density, and magnetism.
- Sand and salt are separated based on solubility; iron filings and sand are separated using a magnet.
- Separation techniques are important in daily life as well as in industries like water treatment.

Practice Questions

- 1 Give one example from your kitchen where separation of substances is needed.
- 2 Explain how you could separate a mixture of salt and sand.
- 3 Why is separation of substances important in industries like water treatment?