

Solute, Solvent and Solution

Chapter 9: The Amazing World of Solutes, Solvents, and Solutions · Topic 1

Key Concept

Water is often called the 'universal solvent' because it can dissolve more substances than almost any other liquid, due to its unique molecular structure. Not all substances dissolve in every solvent — oil, for example, does not dissolve in water but does dissolve in solvents like petrol, showing that 'like dissolves like' based on the chemical nature of the substances involved. Solutions can be solid-in-liquid (sugar in water), liquid-in-liquid (alcohol in water), or gas-in-liquid (carbon dioxide in soda).

Quick Revision Notes

- A solution forms when a solute dissolves uniformly in a solvent.
- In sugar water, sugar is the solute and water is the solvent.
- Water is called the 'universal solvent' due to its ability to dissolve many substances.
- Solutions can be solid-liquid, liquid-liquid, or gas-liquid combinations.

Practice Questions

- 1 Identify the solute and solvent in a saltwater solution.
- 2 Why is water called the 'universal solvent'?
- 3 Explain why oil does not dissolve in water but dissolves in petrol.