

Atoms, Molecules and Radicals

Chapter 11: Atoms, Molecules and Radicals · Topic 1

Key Concept

An atom consists of a nucleus (containing protons and neutrons) surrounded by electrons, forming the basic building block of matter.

A molecule forms when two or more atoms bond together, like O_2 (oxygen molecule) or H_2O (water molecule).

A radical, like the hydroxide ion (OH^-), is a group of atoms that behaves as a single unit and carries a charge in chemical reactions.

Understanding atoms, molecules, and radicals is fundamental to understanding chemical reactions and how substances combine.

Quick Revision Notes

- An atom has a nucleus with protons and neutrons.
- Electrons surround the nucleus.
- A molecule forms when atoms bond together.
- Examples: O_2 , H_2O .
- A radical is a group of atoms acting as one unit.
- Example: hydroxide ion (OH^-).
- Radicals carry a charge in reactions.
- These concepts are fundamental to chemistry.

Practice Questions

- 1 Draw a simple diagram of an atom.
- 2 Discuss the difference between an atom and a molecule.
- 3 Research the hydroxide radical.
- 4 Explain why molecules form.
- 5 Research another example of a radical.
- 6 Discuss why understanding atoms matters for chemistry.