

Carbon - An Important Element

Chapter 13: Carbon - An Important Element · Topic 1

Key Concept

Carbon has the unique ability to form four bonds and chain with itself (catenation), enabling the vast diversity of organic compounds.

Carbon exists in different allotropic forms, including diamond (hardest natural substance) and graphite (soft, used in pencils and lubricants).

Organic compounds, all containing carbon, form the basis of life, including carbohydrates, proteins, fats, and DNA.

Carbon compounds have numerous industrial applications, including fuels, plastics, medicines, and countless other everyday products.

Quick Revision Notes

- Carbon: forms 4 bonds, catenation ability.
- This enables diverse organic compounds.
- Allotropes: diamond (hardest), graphite (soft).
- Graphite used in pencils, lubricants.
- Organic compounds: basis of life.
- Include carbohydrates, proteins, fats, DNA.
- Carbon compounds: fuels, plastics, medicines.
- Used in countless everyday products.

Practice Questions

- 1 Discuss why carbon forms so many compounds.
- 2 Research the properties of diamond and graphite.
- 3 Discuss why organic compounds are important for life.
- 4 List three carbon compound applications.
- 5 Research a carbon-based fuel.
- 6 Explain carbon's importance in your own words.