

Pure Substances and Mixtures

Chapter 2: Is Matter Around Us Pure? · Topic 1

Key Concept

Pure substances have fixed physical properties, like a specific melting or boiling point, while mixtures often show a range of melting/boiling points depending on their composition. Mixtures are further classified as homogeneous (uniform composition, like a salt solution) or heterogeneous (non-uniform, like a mixture of oil and water, which visibly separates into layers). This distinction between pure substances and mixtures is fundamental to understanding chemical classification and separation techniques.

Quick Revision Notes

- A pure substance has a fixed composition (single element or compound).
- A mixture contains two or more substances in variable proportions.
- Pure substances have fixed melting/boiling points; mixtures often show a range.
- Mixtures can be homogeneous (uniform) or heterogeneous (non-uniform).

Practice Questions

- 1 Classify air and pure gold as mixture or pure substance.
- 2 Explain the difference between a homogeneous and heterogeneous mixture.
- 3 Why does a mixture often show a range of melting points rather than a single fixed point?