

Cambridge IGCSE Chemistry

Topic 2: Experimental techniques

Criteria of purity

Notes





(Extended only) Outline how chromatography techniques can be applied to colourless substances by exposing chromatograms to substances called locating agents; knowledge of specific locating agents is not required

- You can analyse colourless mixtures of chemicals if the 'spots' can be coloured by a chemical or light treatment
 - Examples include...
 - Ninhydrin used with proteins – breaks them down into amino acids and colours them purple
 - UV light – fluoresce many colourless organic molecules
 - (you don't need to remember these specific locating agents)
 - These are all known as locating agents, allowing R_f values to be taken and (previously colourless) molecules to be identified

Identify substances and assess their purity from melting point and boiling point information

- Pure substances melt and boil at specific temperatures
 - This melting and boiling points data can be used to distinguish pure substances from mixtures (which melt over a range of temperatures due to them consisting of 2 or more elements or compounds)

Understand the importance of purity in substances in everyday life, e.g. foodstuffs and drugs

- A mixture:
 - Consists of 2 or more elements or compounds not chemically combined together
 - Chemical properties of each substance in the mixture are unchanged
- A pure substance = a single element or compound, not mixed with any other substance
- In everyday language, a pure substance = substance that has had nothing added to it, so it is unadulterated and in its natural state, e.g. pure milk
- to have a pure substance for food or drugs is very important as impurities could be dangerous even in small amounts

