



AQA GCSE Chemistry

Topic 8: Chemical analysis **Purity, formulations and chromatography**

Notes

(Content in bold is for Higher Tier only)



Pure substances

- A pure substance = a single element or compound, not mixed with any other substance
- They melt and boil at specific temperatures
 - This melting and boiling points data can be used to distinguish pure substances from mixtures
- 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

Formulations

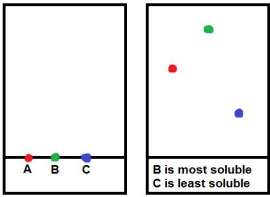
- A formulation = mixture that has been designed as a useful product
- Many products are complex mixtures in which each chemical has a particular purpose
- They are made by mixing the components in carefully measured quantities to ensure that the product has the required properties
- Examples are fuels, cleaning agents, paints, medicines, alloys, fertilisers and foods

Chromatography

- Used to separate mixtures and give information to help identify substances
- Involves a stationary phase and a mobile phase
- Separation depends on the distribution of substances between the phases

Rf value = distance moved by substance ÷ distance moved by solvent

- Different compounds have different Rf values in different solvents, which can be used to help identify the compounds
- Compounds in a mixture may separate into different spots depending on the solvent but a pure compound will produce a single spot in all solvents

Paper Chromatography	Analytical technique separating compounds by their relative speeds in a solvent as it spreads through paper.
	The more soluble a substance is, the further up the paper it travels.
Pigment	Separates different pigments in a coloured substance. Solid, coloured substance

