Purity and Mixtures

What is meant by Purity?

- ONLY contains one compound or element
  - nothing else!

Melting Point and Purity

- A chemically pure substance will melt at a specific temperature
- Compare the measured melting point to a reference melting point.
- The purity of the substance can be gained from how close the measure melting point is to the reference temperature
- Impurities will lower the melting point
  - and increase the melting range
- Example : melting point of pure aspirin is 136°C
  - a sample of impure aspirin could range from 127 °C to 133 °C
    - melting point lowered AND range increased

Formulations

- Each component is a measured quantity
  - to meet the required function of the formulation
- such as fuels, cosmetics, fertilizers, paints, many medicines
- Example
  - paints contain pigments, solvents, binder and additives
    - in proportions to suit the purpose of the paint
- Example
  - Ratio of water to ethanol is 2:1 in a formulation,
    - what volume of ethanol is in 30 cm^3
      - 1/3 x30 = 10 cm^3

What is meant by a mixture ?

- that are not chemically bound together
- Contains more than one element or compound
- parts can be separated physical methods
  - such as filtration, crystallisation, chromatography....
- properties of a mixture are a mixture of the separate parts