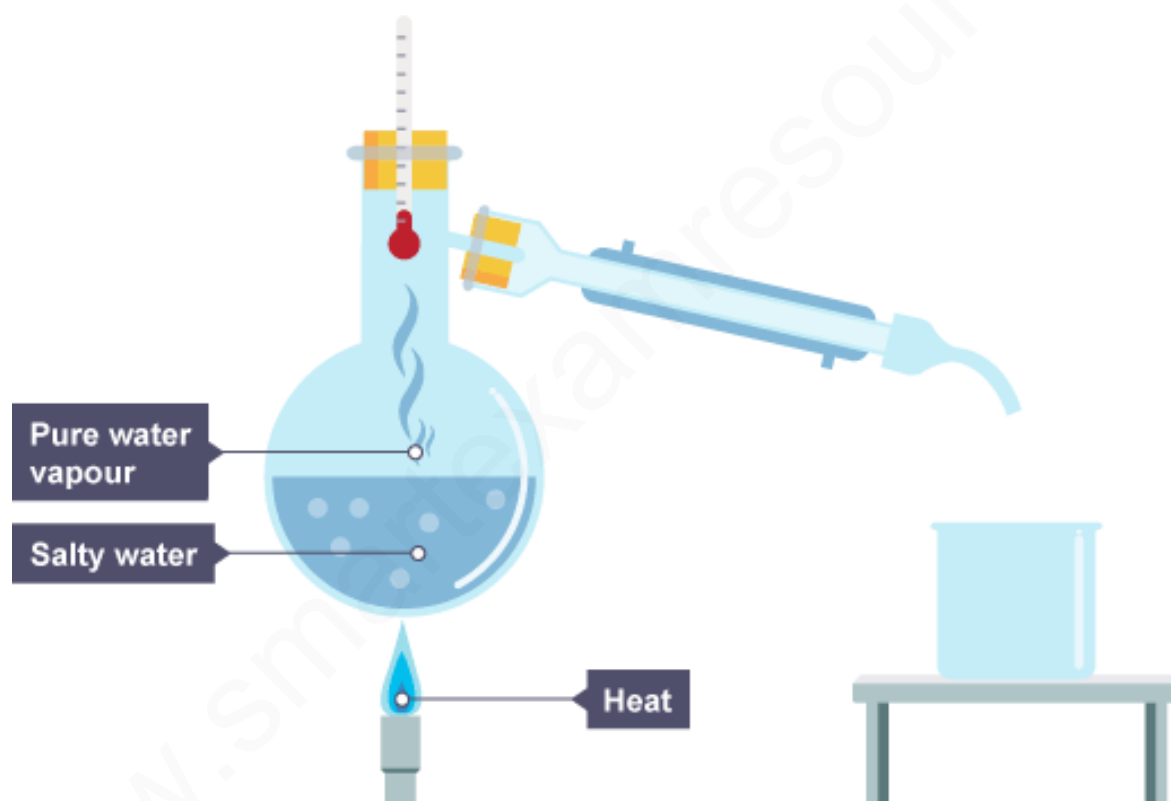


Simple distillation

Use : Used to separate a dissolved solid (solute) from a solution.

Method:

Simple distillation is a method for separating the solvent from a solution. For example, water can be separated from salt solution by simple distillation. This method works because water has a much lower boiling point than salt. When the solution is heated, the water evaporates. It is then cooled and condensed into a separate container. The salt does not evaporate and so it stays behind



Every pure substance has its own particular melting point and boiling point. One way to check the purity of the separated liquid is to measure its boiling point. For example, pure water boils at 100°C . If it contains any dissolved solids, its boiling point will be higher than this.

Application based questions-extended theory-new

A list of techniques used to separate mixtures is given below.

**fractional
distillation**

**simple
distillation**

crystallization

filtration

diffusion

From the list choose the most suitable technique to separate the following.

water from aqueous copper(II) sulphate

helium from a mixture of helium and argon

copper(II) sulphate from aqueous copper(II) sulphate

ethanol from aqueous ethanol

barium sulphate from a mixture of water and barium sulphate [5]

[Total: 5]

MARKING SCHEME:

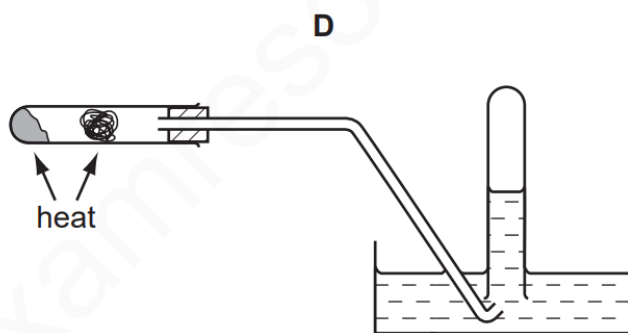
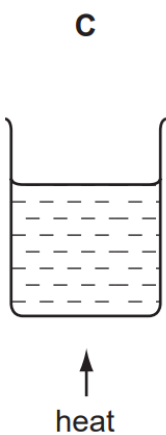
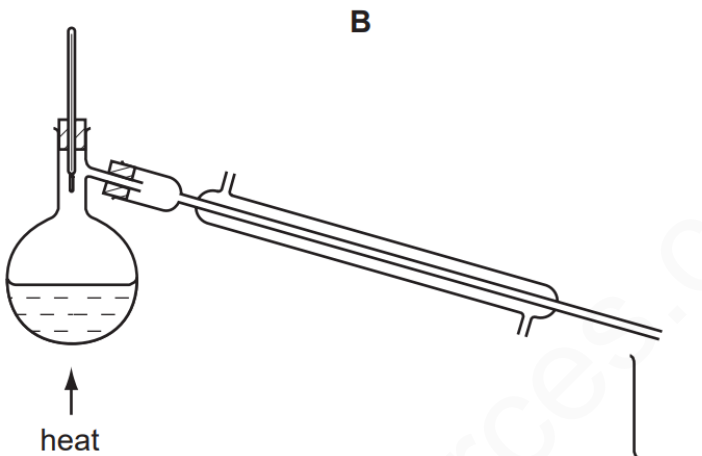
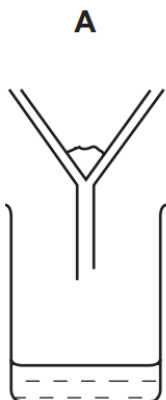
<u>simple distillation</u>	[1]
diffusion or fractional distillation	[1]
crystallisation	[1]
fractional distillation	[1]
filtration	[1]

NOTE As the candidate are selecting from a list, the above are the only acceptable responses.

[Total: 5]

Methanol, CH_3OH , and ethanol, $\text{C}_2\text{H}_5\text{OH}$, are miscible liquids.

Which diagram shows apparatus that is used to obtain methanol from a mixture of ethanol and methanol?



ANSWER: B

Which two methods can be used to separate a salt from its solution in water?

- 1 crystallisation
- 2 decanting
- 3 distillation
- 4 filtration

A 1 and 2

B 1 and 3

C 2 and 3

D 3 and 4

ANSWER: B

Which method can be used to separate a mixture of salt and water to obtain **both** parts of the mixture?

- A** crystallisation
- B** distillation
- C** evaporation
- D** filtration

ANSWER:B

Which method is used to obtain a concentrated solution of ethanol from a dilute solution of ethanol dissolved in water?

- A** crystallisation
- B** distillation
- C** filtration
- D** paper chromatography

ANSWER:B