2.1 Measurement

01.0620_s18_qp_41 Q: 1

Substances can be classified as elements, compounds or mixtures.

(a) What is meant by the term *compound*?

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.....

..... [2]

(b) Mixtures can be separated by physical processes.

A sequence of physical processes can be used to separate common salt (sodium chloride) from a mixture containing sand and common salt only.

Give the order and the correct scientific term for the physical processes used to separate the common salt from the mixture.

1 .....

2 .....

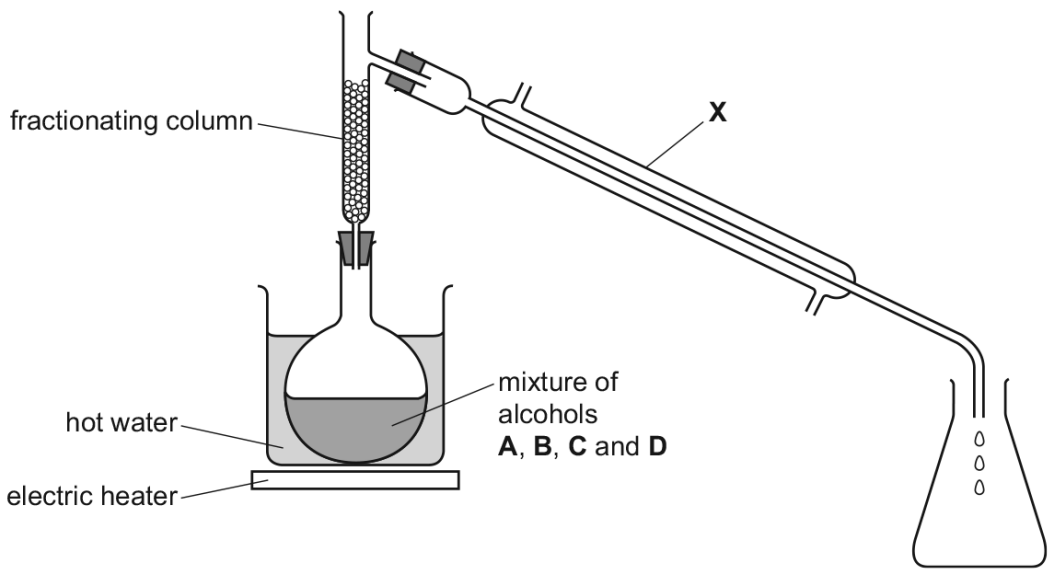
3 .....

[4]

The boiling points of four different alcohols, **A**, **B**, **C** and **D**, are shown.

alcohol	**A**	**B**	**C**	**D**
boiling point/°C	56	78	122	160

(c) A student suggested that the apparatus shown could be used to separate the mixture of alcohols.



(i) Apparatus **X** needs to have cold water flowing through it.

- Draw an arrow on the diagram to show where the cold water enters apparatus **X**.
- Name apparatus **X**.

.....

[2]

(ii) Part of the fractionating column is missing. This means that the experiment will not work.

- Draw on the diagram the part of the fractionating column which is missing.
- Explain why the experiment will **not** work with this part of the fractionating column missing.

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.....

[2]

(iii) Suggest why a Bunsen burner is **not** used to heat the flask.

..... [1]

(iv) A hot water bath cannot be used to separate alcohols **C** and **D**.

Explain why.

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..... [2]

[Total: 13]

01.0620_s18_ms_41 Q: 1

(a)	a substance made from two (or more) **elements**	1
	chemically combined	1
(b)	dissolving	1
	filtration	1
	evaporation / crystallisation	1
	three correct stages in the correct order	1
(c)(i)	condenser	1
	arrow pointing into lower aperture **only**	1
(c)(ii)	stopper shown in diagram	1
	gases or vapours escape	1
(c)(iii)	(mixture is) (in)flammable	1
(c)(iv)	water bath cannot exceed 100 (°C)	1
	C AND D have a boiling point above 100 (°C)	1