

Ionic Compounds

Question Paper

Level	GCSE
Subject	Chemistry
Exam Board	Edexcel IGCSE
Module	Single Award (Paper 2C)
Topic	Principles of Chemistry
Sub-Topic	Ionic Compounds
Booklet	Question Paper

Time Allowed: 23 minutes

Score: /19

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	70%	60%	55%	50%	<50%

(c) The equation shows the reaction of sodium with water.



A sample of sodium of mass 0.138 g reacts with excess water.

Calculate the volume of hydrogen, in cm^3 , produced at room temperature and pressure (rtp).

[The volume of one mole of a gas at rtp is 24 000 cm^3]

(3)

Volume of gas produced = cm^3

(d) Sodium chloride can be made by many different reactions.

A student prepared a sample of sodium chloride using the following method.

Step 1 She added an excess of a solid sodium compound, X, to dilute hydrochloric acid. The mixture fizzed as the solid reacted.

Step 2 She filtered the mixture produced to remove the excess solid X. The filtrate was a colourless liquid.

Step 3 She evaporated the colourless liquid. A white solid remained.

(i) Describe a chemical test that the student could do to show that the colourless liquid in Step 2 contained chloride ions, Cl^- .

(3)

Test

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Result

(ii) The student concluded that solid X was sodium hydroxide.

State one reason why this conclusion was **not** correct.

Suggest a possible identity of solid X.

(2)

Reason

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Solid X could be

(e) Sodium chloride can also be made by reacting sodium with chlorine gas.

Draw a dot and cross diagram to show the arrangement of the electrons in each of the ions in sodium chloride. Show the charge on each ion.

Show only the outer electrons.

(3)

(f) Potassium bromide can be made by reacting potassium with bromine gas.

Explain why it is difficult to be sure whether the reaction between potassium and bromine gas would be more vigorous than the reaction between sodium and chlorine gas.

(2)

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(Total for Question 1 = 19 marks)