

3 Hydrogen and chlorine react together to form hydrogen chloride, a covalent compound.

(a) Complete Fig. 14.1 to show the outer electrons in a molecule of hydrogen chloride.

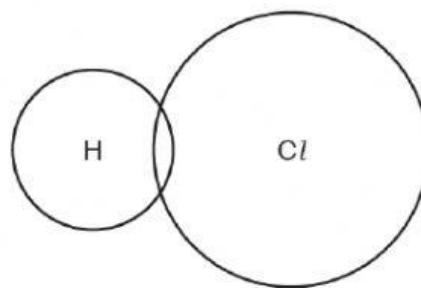


Fig. 14.1

[2]

(b) Hydrogen chloride dissolves in water to produce hydrochloric acid.

Hydrochloric acid reacts with copper oxide.

Complete the equation for this reaction.



[1]

(c) Explain why hydrochloric acid does not react with copper metal.

.....

[1]

4 Equal volumes of dilute nitric acid are placed into three separate test-tubes. Small pieces of three metals **A**, **B** and **C** are placed in the test-tubes.

The results are shown in Fig. 6.1.

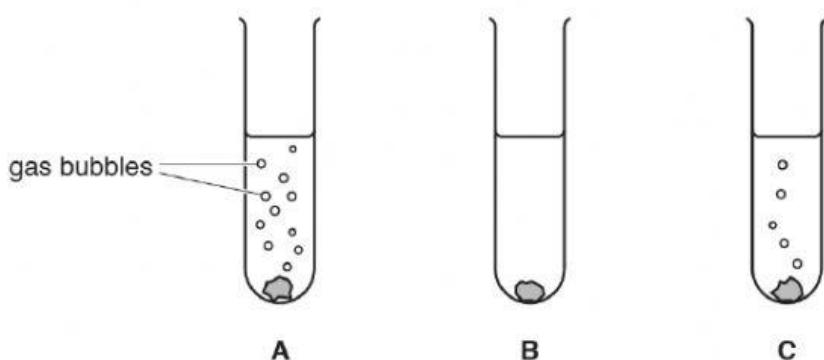


Fig. 6.1

(b) Determine the order of reactivity of the metals **A**, **B** and **C**.

most reactive

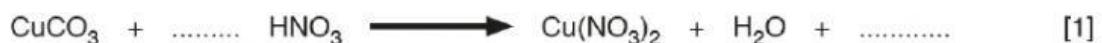
.....

least reactive

[2]

(c) Nitric acid reacts with copper(II) carbonate to produce copper(II) nitrate, water and carbon dioxide.

(i) Complete and balance the equation for the reaction.



(ii) State the names of two other substances that react with dilute nitric acid to produce copper(II) nitrate.

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[2]