



CHAPTER 3: CHEMICAL FORMULAE AND EQUATIONS



Extra Practice

Written practical test

Diagram 1(a) shows the apparatus set-up for an experiment to determine the formula of copper(II) oxide.

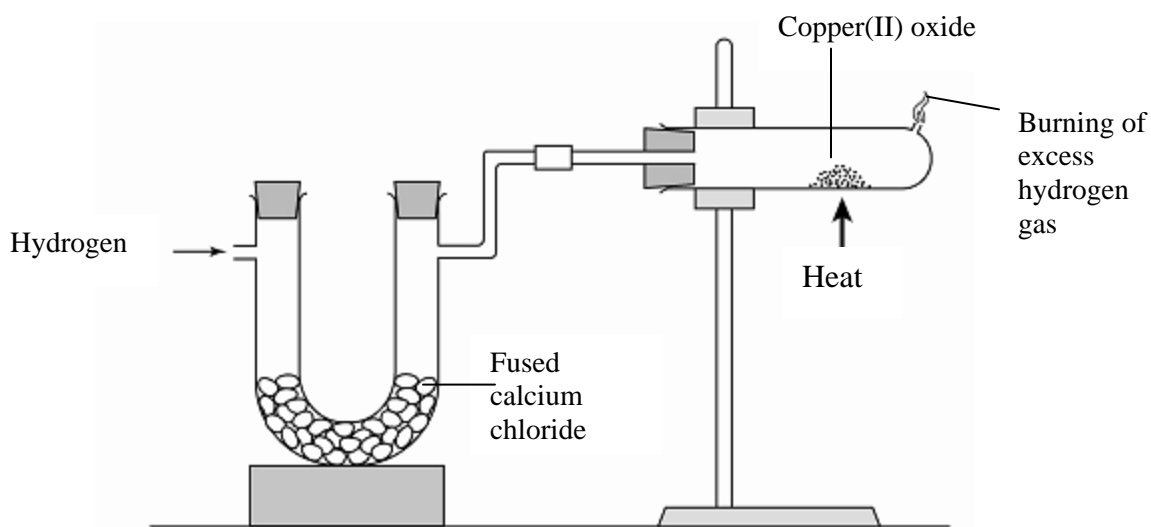


Diagram 1(a)

The test tube and contain were weighed.

Weight of test tube + asbestos paper:



Diagram 1(b)

Reading: _____

Weight of test tube + asbestos paper + copper(II) oxide:



Diagram 1(c)

Reading: _____

Weight of test tube + asbestos paper + copper:



Diagram 1(d)

Reading: _____

Answer the following questions:

- (a) (i) Record the readings in the spaces provided. [3 marks]
(ii) Construct a table to show all the data in this experiment. [4 marks]
- (b) Calculate
(i) the mass of copper formed. [1 mark]
(ii) the number of moles of copper formed. [The relative atomic mass of copper = 64] [1 mark]
- (c) Calculate
(i) the mass of oxygen in the copper(II) oxide. [1 mark]
(ii) the number of moles of oxygen in the copper(II) oxide. [The relative atomic mass of oxygen = 16] [1 mark]
- (d) Calculate the ratio of copper to oxygen. [1 mark]
- (e) State the hypothesis of this experiment. [1 mark]
- (f) Suggest the following variables in this experiment.
(i) the manipulated variable
(ii) the responding variable [2 marks]
- (g) State **three** fixed variables. [3 marks]
- (h) Before the experiment was started, the apparatus should be free of any trapped air. Why? [2 marks]

- (i) Suggest the part played by the fused calcium chloride. [1 mark]
- (j) What could be observed during the progress of the experiment? [1 mark]
- (k) State the product of the experiment. [1 mark]
- (l) Why was a stream of hydrogen passed through the test tube at the end of the experiment? [1 mark]
- (m) Write an equation for the reaction which occurred in this experiment. [1 mark]
- (n) Can the formula of magnesium oxide be determined by this method? Why? [2 marks]