CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2012 series

0620 CHEMISTRY

0620/61 Paper 6 (Alternative to Practical), maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2012 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

CAMBRIDGE
International Examinations

1 **(a)** arrow under copper oxide (1) [1]

(b) black (1) to brown/red (1) [2]

(c) diagram of tube entering test-tube or similar in beaker of cold water/ice/Liebig condenser (1) [2]

labelled water/ice/condenser (1)

(d) extinguished/goes out (1) **not:** no effect/no reaction [1]

2 **(a)** carbon/graphite/platinum (1) [1]

(b) negative/cathode (1) [1]

(c) bubbles/fizz/ colour of solution pales (1) **not:** gas given off ignore wrong gas [1]

(d) **(i)** with distilled/pure water (1) **accept:** organic solvents [1]

(ii) use of hairdryer/oven (1) **allow:** heat/heater [1]

(e) increase in masses completed correctly (1) [1]

0.75 1.00 1.15 1.15 1.15 accept 1 for 1.00

(f) points plotted correctly (2), –1 any incorrect [3]

two straight lines through points (1)

(g) reaction finished/all copper deposited owtte/all copper sulfate used up (1) [1]

3 **(a)** **(i)** silver/grey (1) **not:** shiny [1]

(ii) white (1) [1]

(b) oxygen (1) [1]

(c) to let air/oxygen enter or make sure all magnesium reacted owtte (1) [1]

© Cambridge International Examinations 2012

(d) error in weighing (1) [2]

loss of magnesium oxide (1)

some magnesium unreacted (1) max 2

4 **(a)** Table of results for Experiments [5]

all initial temperature boxes completed correctly (2)

25 41 47 62 72

all final temperature boxes completed correctly (2)

23 27 39 42 48

average temperatures completed correctly (1)

24 34 43 52 60

(b) points plotted correctly (4) [5]

smooth line graph (1)

(c) value from graph at 72 °C (1) ≈ 30–35 s [2]

extrapolation shown on grid (1)

(d) as an indicator owtte/check iodine present (1) [1]

(e) **(i)** experiment 5 (1) [1]

(ii) highest temperature (1) [2]

particles have more energy/more collisions/move faster (1)

(f) time longer/more/increase (1) [2]

speed slower/decrease (1)

(g) more accurate (1) [1]

© Cambridge International Examinations 2012

5 **(a)** **(i)** white (1) precipitate (1) dissolves (1) [3]

(ii) white precipitate (1) dissolves (1) [2]

(b) no reaction/change (1) [1]

(c) white (1) precipitate (1) [2]

(g) chlorine (1) **not:** chloride [1]

(h) oxygen (1) [1]

(i) transition metal present (1) catalyst (1) **allow:** copper oxide for one mark [2]

manganese (1) oxide (1) max 2

6 any seven from:
equal weight/mass of limestone and marble (1) [7]

crush (1)

add excess owtte (1) hydrochloric acid (1)

stir (1)

filter mixture (1)

dry (1)

reweigh (1)

conclusion (1)

[Total: 60]

© Cambridge International Examinations 2012