

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2014 series**

**0620 CHEMISTRY**

**0620/51**

Paper 5 (Practical), maximum raw mark 40

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.

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Page 2	Mark Scheme	Syllabus	Paper
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- 1 (a) Table of results for Experiment 1  
 initial and final volumes and difference completed correctly (1)  
 to 1 decimal place (1)  
 comparable to supervisors (1)  $\pm 2 \text{ cm}^3$  [3]
- (b) Table of results for Experiment 2  
 Initial and final volumes completed correctly (1)  
 and difference (1)  
 comparable to supervisors (1)  $\pm 2 \text{ cm}^3$  [3]
- (c) (i) yellow, **not** orange to pink / orange (1) **not** red [1]  
 (ii) as an indicator / to show end point (1)  
**ignore** to see colour change [1]  
 (iii) neutralisation (1) [1]
- (d) (i) experiment 1 (1) [1]  
**allow:** ecf from tables  
 (ii) quantitative comparison  
 experiment 1 4X volume experiment 2/x  $\text{cm}^3$  more than (1) [1]  
 (iii) solution B more concentrated/stronger (1) or converse  
 explanation e.g. 4X as concentrated/less volume used (1) [2]
- (e) half value / half value from table result for experiment 2 (1)  $\text{cm}^3$  (1) [2]
- (f) advantage  
 easy to use / quick / convenient (1)  
 disadvantage  
 not accurate (1) [2]
- (g) same volume of each solution (1) add suitable named reactant (1)  
 expected observation (1) comparison (1)  
 e.g.  $10 \text{ cm}^3$  of each acid (1) add strip of magnesium/named carbonate (1)  
 effervescence (1) more rapid bubbles means stronger acid (1) [4]

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- 2 (a) (i) purple / black / violet (1) crystals (1) [2]
- (ii) drops / condensation at top of tube (1) colour change to green/grey (1)  
green on cooling (1) max [2]
- (b) (i) green / grey (1) **not** white precipitate (1) [2]
- dissolves / clears (1) [1]
- (ii) green / grey **not** white precipitate (1) insoluble (1) [2]
- (c) blue / green (1) glowing splint (1) relights / glows brighter (1)  
effervescence / bubbles (1) max [3]
- (d) no reaction / no precipitate / no change / colourless solution (1) [1]
- (e) white (1) precipitate (1) [2]
- (f) hydrated/water (1)  
**allow** transition metal [1]
- (g) not halide / chloride / iodide (1) sulfate (1)  
transition metal / iron / chromium / catalyst (1) [3]