CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2013 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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CAMBRIDGE
International Examinations

1 **(a)** table of results for Experiment 1
initial final and difference volume boxes completed correctly (1)
readings to 1 decimal place (1)
comparable to supervisors (1) ±2 cm [3]

(b) table of results for Experiment 2
initial and final boxes completed correctly (1)
difference box completed correctly (1)
comparable to supervisors (1) ±5 cm^3 [3]

(c) colourless (1) pink / magenta (1) [2]

(d) neutralisation / acid-base (1) [1]

(e) 2× volume for Experiment 1 from table (1) cm^3 (1) [2]
allow: 1 mark for double the volume

(f) **(i)** reacts with (1) neutralises the acid (1)
less sodium hydroxide needed (1) max [2]

(ii) volume in **(e)** – volume added in Experiment 2 (1) e.g. 50–17
correct value (2) e.g. 33 [2]

(iii) estimate based on **(ii)** answer to **(ii)** / 3 divided into 50 × 0.1 e.g. 0.5
allow: 1 mark for 0.45–0.6g [1]

(g) no effect (1)
reason – reaction not affected by temperature / volumes / concentrations the same (1) [2]

(h) **(i)** more accurate (1) than a measuring cylinder (1)
not: more accurate than a burette = 0 [2]

(ii) no effect / advantage (1)
not measuring temperature changes / no temperature difference (1) [2]

2 **(a)** colourless / pale yellow (liquid) [1]
not: clear

(b) **(i)** liquid turns yellow / red / brown (1) [1]
(two) layers (1) top layer pink / purple (1) [2]

(ii) two layers / oil bubble (1) yellow (1) [2]

(c) no reaction / change / precipitate (1) [1]

(d) yellow (1) precipitate (1) [2]

(e) brown / white (1) precipitate (1) [2]

(f) yellow (1) bubbles / fizz / effervescence (1)
starch turns blue / black (1) [3]
not: black precipitate

(g) iodine dissolves / soluble / diffuses / owtte (1) [1]
not: reacts

(h) organic / hydrocarbon (1) solvent (1)
oil / immiscible (1) max [2]

(i) iodide / not a sulfate (1) [1]
not: iodine