Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CHEMISTRY **0620/61**

Paper 6 Alternative to Practical **May/June 2016**

MARK SCHEME

Maximum Mark: 40

Published

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Abbreviations used in the Mark Scheme

- ; separates marking points
- / separates alternatives within a marking point
- **OR** gives alternative marking point
- **R** reject
- **I** ignore mark as if this material was not present
- **A** accept (a less than ideal answer which should be marked correct)
- **COND** indicates mark is conditional on previous marking point
- owtte or words to that effect (accept other ways of expressing the same idea)
- max indicates the maximum number of marks that can be awarded
- ecf credit a correct statement that follows a previous wrong response
- ( ) the word / phrase in brackets is not required, but sets the context
- ora or reverse argument

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Question	Answer	Marks
1(a)	fractionating column; tripod;	**2** 1 1
1(b)	water labelled twice;	**1**
1(c)	heat under (the collecting) beaker;	**1**
1(d)	**M1** ethanol; **M2** lowest / lower boiling point;	**2** 1 1
1(e)	ethanol is flammable;	**1**

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Question	Answer	Marks
2(a)	final readings completed correctly: 13.2, 39.2; initial readings completed correctly: 0.0, 12.8; differences completed correctly: 13.2, 26.4; all readings and differences to 1 decimal place;	**4** 1 1 1 1
2(b)	yellow to orange / red / pink;	**1**
2(c)	initial and final readings completed correctly: 9.9, 16.5; difference completed correctly: 6.6;	**2** 1 1
2(d)	bubbles / fizzing / effervescence;	**1**
2(e)	Experiment 2;	**1**
2(f)	use a pipette / burette;	**1**
2(g)	effect on results: none owtte; reason: no change in concentration owtte;	**2** 1 1
2(h)(i)	2:1;	**1**
2(h)(ii)	acid **B** is double the concentration of acid **A** ora / acid **B** is more concentrated ora;	**1**
2(i)	any suitable correct and different method **M1** method; **M2** reagents; **M3** result;	**3** 1 1 1

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Question	Answer	Marks
3(a)	sodium; bromide;	**2** 1 1
3(b)	green;	**1**
3(c)(i)	green; precipitate; with excess, green solution / clear / dissolves;	**3** 1 1 1
3(c)(ii)	grey-green; precipitate;	**2** 1 1
3(c)(iii)	white precipitate;	**1**
3(d)	fume cupboard / protective clothing, e.g. gloves or goggles;	**1**

Question	Answer	Marks
4	any 6 from: weigh calcium; with lid / cover; heat / burn; allow air to enter / lift lid; cool; reweigh CaO; reheat to constant mass; calculate / find the difference;	**6**

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