

**2003 Chemistry SG General
Finalised Marking Instructions**

Strictly Confidential

These instructions are **strictly confidential** and, in common with the scripts entrusted to you for marking, they must never form the subject of remark of any kind, except to Scottish Qualifications Authority staff. Similarly, the contents of these instructions must not be copied, lent or divulged in any way now, or at any future time, to any other persons or body.

Markers' Meeting

You should use the time before the meeting to make yourself familiar with the question paper, instructions and any scripts which you have received. Do **not** undertake any final approach to marking until **after** the meeting. Please note any points of difficulty for discussion at the meeting.

Note: These instructions can be considered as final only after the markers' meeting when the full marking team has had an opportunity to discuss and finalise the document in the light of a wider range of candidates' responses.

Marking

The utmost care must be taken when entering and totalling marks. Where appropriate, all summations for totals must be carefully checked and confirmed.

Where a candidate has scored zero marks for any question attempted, "0" should be entered against the answer.

Recording of Marks

The mark for each **question**, where appropriate, should be entered **either** on the grid provided on the back page of the answer book, **or** in the case of question/answer books, on the grid (if provided) on the last page of the book. Where papers assess more than one element, care must be taken to ensure that marks are entered in the correct column.

The **Total** mark for each paper or element should be entered (in red ink) in the box provided in the top-right corner of the front cover of the answer book (or question/answer book).

Always enter the **Total** mark as a **whole number**, where necessary by the process of rounding up.

The transcription of marks, within booklets and to the Mark Sheet, should always be checked.

Markers are reminded that they must not write comments on scripts.

**2003 Standard Grade Chemistry
General Level**

Marking Instructions

Part 1 – 20 marks

1	(a)	E	1 or 0	
	(b)	D	1 or 0	
2		B	1 or 0	
3	(a)	A	1 or 0	
	(b)	C and F	1 or 0	CLOSED
	(c)	E	1 or 0	
4	(a)	A	1 or 0	
	(b)	F	1 or 0	
	(c)	C	1 or 0	
5	(a)	B	1 or 0	
	(b)	E	1 or 0	
	(c)	D	1 or 0	
6	(a)	B	1 or 0	
	(b)	F	1 or 0	
	(c)	A and F	1 or 0	CLOSED
7	(a)	A	1 or 0	
	(b)	C and E	2 or 1 or 0	OPEN
8		D and E	2 or 1 or 0	OPEN

Please note that there are **NO HALF MARKS** in Part 1.

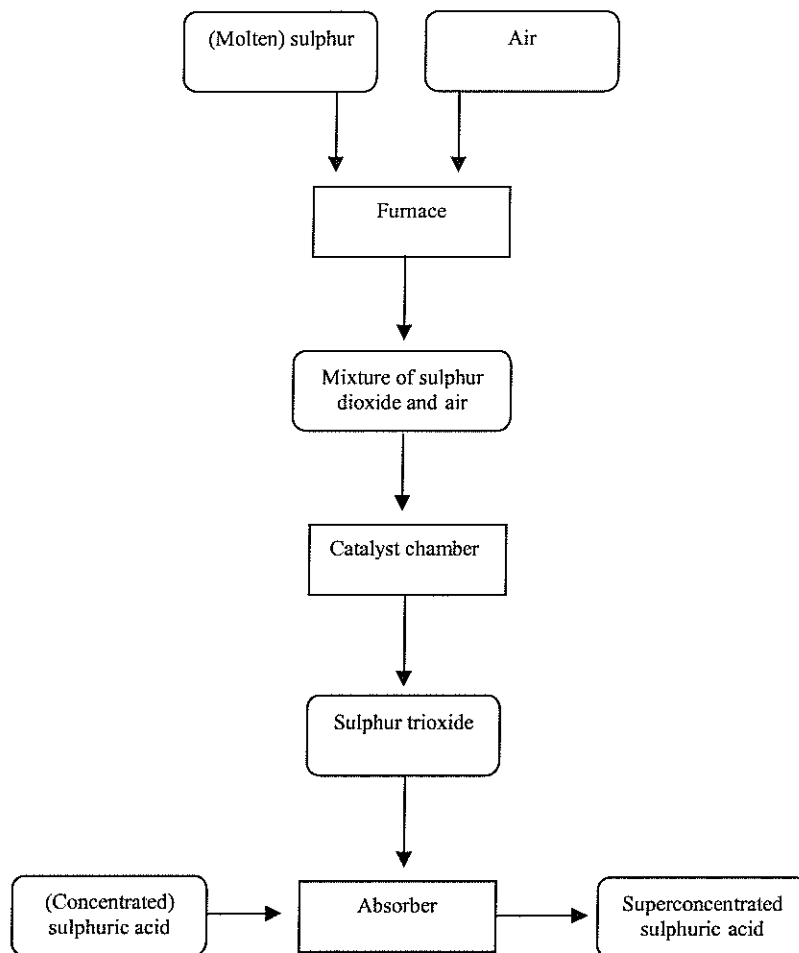
Part 2 – 40 marks

- 9 (a) table drawn
(crosslines adequate) ½ mark
- 2 suitable headings ½ mark
- 4 correct entries (-½ each error/omission) 1 mark
- (b) will eventually run out/be used up
idea of limited amount available
(**not** non – renewable, not a lot left, cannot be replaced) 1 mark
- 10 (a) (i) (fractional) distillation
(not fractionating, refining) 1 mark
- (ii) flammability – increasing ½ mark
- viscosity – decreasing ½ mark
- (iii) gases (boil below 20°C)
top fraction
(**not** first fraction) 1 mark
- (b) alkanes 1 mark
- (c) (i) all single bonds
no double bonds
(**not** contains a single bond)
(**not** cannot add any more hydrogens)
(**not** cannot decolourise bromine) 1 mark
- (ii) C₃H₆
(must be molecular formula, not structural formula) 1 mark
- 11 (a) sulphur dioxide/oxides on nitrogen
(not CO₂, sulphur oxide/trioxide) 1 mark
- (b) hydrogen ion/hydrogen (**not** H) 1 mark
- (c) any alkali/an alkali/water/any neutraliser
(not metal of any kind/bleach/OH⁻) 1 mark

- 12 (a) vertical scale and label ½ mark
- bars labelled with names/symbols/abbreviations ½ mark
- bar height correct (½ box tolerance) 1 mark
- deduct ½ mark if less than half width/height of graph paper used
(1 mark maximum for line graph)(½ mark off for each wrong bar)
- (b) SiO₂
(0 if ion charges shown) 1 mark
- 13 (a) biological catalyst
catalyst ½ as in natural catalyst/organic catalyst etc 1 mark
- (b) re-lights a glowing splint/smouldering splint 1 mark
- (c) faster/speeds up/increases/more bubbles 1 mark
- (d) it increases then decreases
goes up then down
decreases
speeds up then slows down
slows down 1 mark
- 14 (a) hydrogen/H₂ (**not H**) 1 mark
- (b) copper/mercury/silver/gold (**not lead**) 1 mark
- (c) concentration of acid/particle size of metal etc
volume of acid/temperature/type of detergent
concentration of detergent/size or mass of metal/size of test tube/
ratio of acid to detergent
(**not** amount of metal etc/strength of acid/type of acid/volume of
substance) 1 mark
- 15 (a) C₂H₆O₂ (must be molecular formula)
(**not** CH₃O) 1 mark
- (b) water/H₂O/steam/hydrogen oxide 1 mark
- (c) man made/made in factory/not natural
made in a lab/made by scientist
(not artificial/unnatural/made with chemicals) 1 mark

- 16 (a) $\text{Mg} + \text{H}_2\text{O} \rightarrow \text{MgO} + \text{H}_2$
deduct $\frac{1}{2}$ for each error
ignore ion charges on MgO
 Mg^{2+} for Mg is an error
Ignore imbalance, inclusion of "heat" 1 mark
- (b) neutralisation/neutralising (**not** exothermic) 1 mark
- (c) water/ H_2O /steam/hydrogen oxide 1 mark
- 17 (a) electrons/ e^- / e^- /electrons shown on wires 1 mark
- (b) to complete the circuit
allow ions to flow/move (between solutions)
complete cell/finish circuit/act as electrolyte
(**not** to conduct electricity/keep circuit going/any reference to e^-) 1 mark
- (c) chemicals/reactants/ Zn/Cu^{2+} used up
Zn completely oxidised
(**not** ions/electrons used up/ Zn loses all e^- /chemicals stop reacting/
Zn disintegrates) 1 mark
- (d) magnesium or aluminium (Mg or Al)
(no other responses accepted) 1 mark
- 18 (a) turns lime water milky/cloudy/chalky (mention of lime water $\frac{1}{2}$) 1 mark
- (b) (i) no more gas given off/shell disappeared/dissolved 1 mark
- balance reading steady/number stays same/balance stays same
(**not** pH increased/acid used up) 1 mark
- (ii) egg shell 1 mark

19



Deduct ½ mark for each incorrect response

2 marks

20 (a) boiling point increase as the number of carbon increases or vice versa as one goes up the other goes up
(**not** temperature instead of boiling point)

1 mark

(b) 125 – 135 (inclusive)

1 mark

[END OF MARKING INSTRUCTIONS]