AQA GCSE Combined Science - Trilogy | 8464

SPECIFICATION POINT 5.8.2.4

Test for chlorine

Mark schemes and examiner comments

Tier	**Foundation**
Question groups	**3**
Available paper years	**2019–2024**

Using this booklet

1. Booklet answer numbers match the question booklet.
2. Use the original question number within marking tables.
3. Examiner comments are included where available.

Name: _____ **Date:** _____

Where a precise marking extract is unavailable, the full source document is included in an appendix. Any missing mark scheme is explicitly identified.

5.8.2.4 Test for chlorine

Answer 01 · Mark scheme June 2019 | 8464/C/1F | Original Q4

04.1	2 Na + Cl_2 → 2 NaCl	allow multiples	1	AO1 5.1.2.2
04.2	7.1 (g)		1	AO2 5.3.1.1
04.3	silver green yellow white	this order only allow yellow allow white	1 1 1 1	AO1 5.1.2.5
04.4	Na^+ Cl^-	if no other mark awarded allow **1** mark for +(1) charge for sodium ion and –(1) charge for chloride ion	1 1	AO1 5.2.1.2
04.5	an electron		1	AO2 5.1.2.5

5.8.2.4 Test for chlorine

Answer 01 · Mark scheme

04.6	potassium (atom) is larger potassium (atom) has more energy levels (of electrons) **or** potassium (atom) has more shells (of electrons)	allow converse for sodium mark independently do **not** accept more outer shells	 1 1	AO2 5.1.2.1 & 5.1.2.5

Total			**11**

5.8.2.4 Test for chlorine

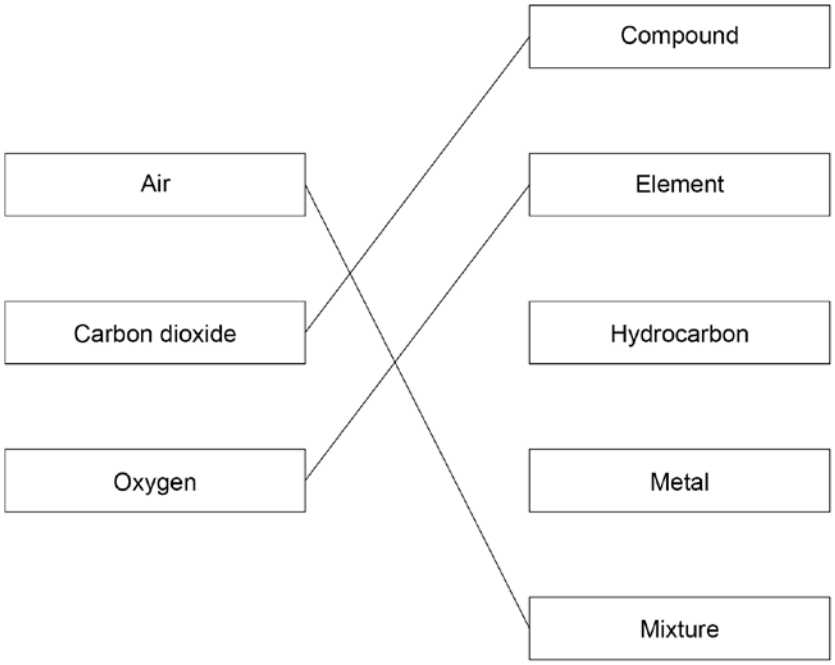
Answer 01 · Mark scheme

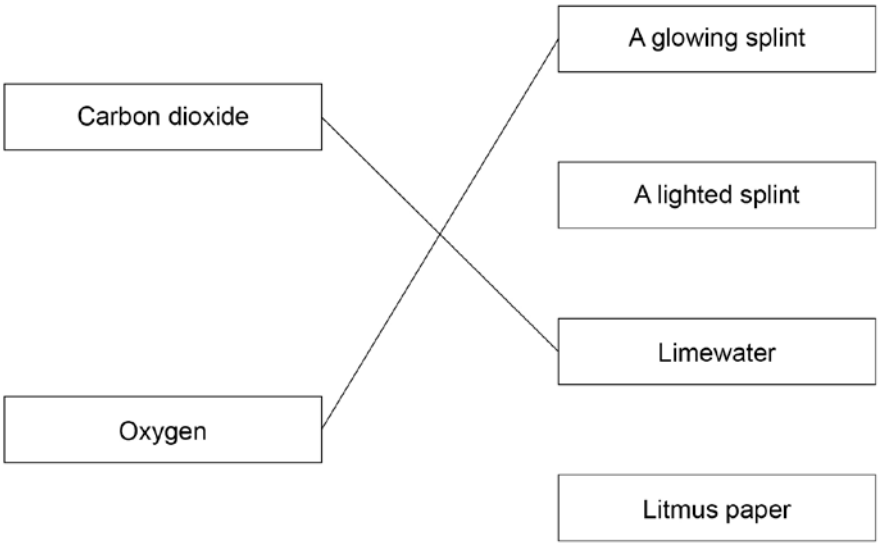
June 2019 | 8464/C/1F | Original Q4

Question	Answers	Extra information	Mark	AO / Spec. Ref.

5.8.2.4 Test for chlorine

Answer 02 · Mark scheme June 2019 | 8464/C/2F | Original Q1

01.1	 If more than one line is drawn from any one substance and not crossed out, no mark is given for that substance. The other marks can be awarded.	1 1 1	AO2.1 5.1.1.2 5.8.1.1 5.1.1.1

01.2	 If more than one line is drawn from any one gas and not crossed out, no mark is awarded for that gas. The other mark can be awarded.	1 1	AO1.1 5.8.2.2 5.8.2.3

01.3	dissolved in oceans photosynthesis		1 1	AO1 5.9.1.2 5.9.1.4

5.8.2.4 Test for chlorine

Answer 02 · Mark scheme

01.4	⇌	ignore any other words, formulae or symbols	1	AO1.1 5.6.2.1
01.5	endothermic (reaction)	spelling must be correct do **not** accept exothermic	1	AO1.1 5.6.2.2
01.6	rate (of reaction)	allow speed or velocity do **not** accept any other response	1	AO1 5.6.2.3
Total			**10**	

5.8.2.4 Test for chlorine

Answer 02 · Mark scheme

June 2019 | 8464/C/2F | Original Q1

Question	Answers	Extra information	Mark	AO / Spec. Ref.

5.8.2.4 Test for chlorine

Answer 03 · Mark scheme

June 2024 | 8464/C/2F | Original Q2

Question 2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
02.1	(substance) **B** (**B**) has a specific melting point	allow 61 (°C) allow all the other substances melted over a range of temperatures MP2 is dependent on MP1 being awarded	1 1	AO3 5.8.1.1

Question	Answers	Extra information	Mark	AO / Spec. Ref.
02.2	(from) white (to) blue	 allow **1** mark from blue to white	1 1	AO1 5.6.2.2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
02.3	(the symbol / sign) ⇌	allow the symbol with arrows both ways	1	AO2 5.6.2.1 5.6.2.2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
02.4	6		1	AO2 5.1.1.1 5.6.2.2

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Answer 03 · Mark scheme

Question	Answers	Extra information	Mark	AO / Spec. Ref.
02.5	(test) damp (blue / red) litmus paper (result) (litmus paper) is bleached **or** (litmus paper) turns white	 ignore paper turns red	1 1	AO1 5.8.2.4

Total Question 2	**8**

5.8.2.4 Test for chlorine

Answer 03 · Examiner comments

June 2024 | 8464/C/2F | Original Q2

Question 2 (low demand)

02.1 Just over half of students correctly identified the pure substance in this AO3 question for 1 mark. Three-quarters of those students went on to give the reason. We were looking for the idea that B did not have a range of melting points or that it was a specific value. Where students did not achieve this mark, it was due to reasons not being clear enough.

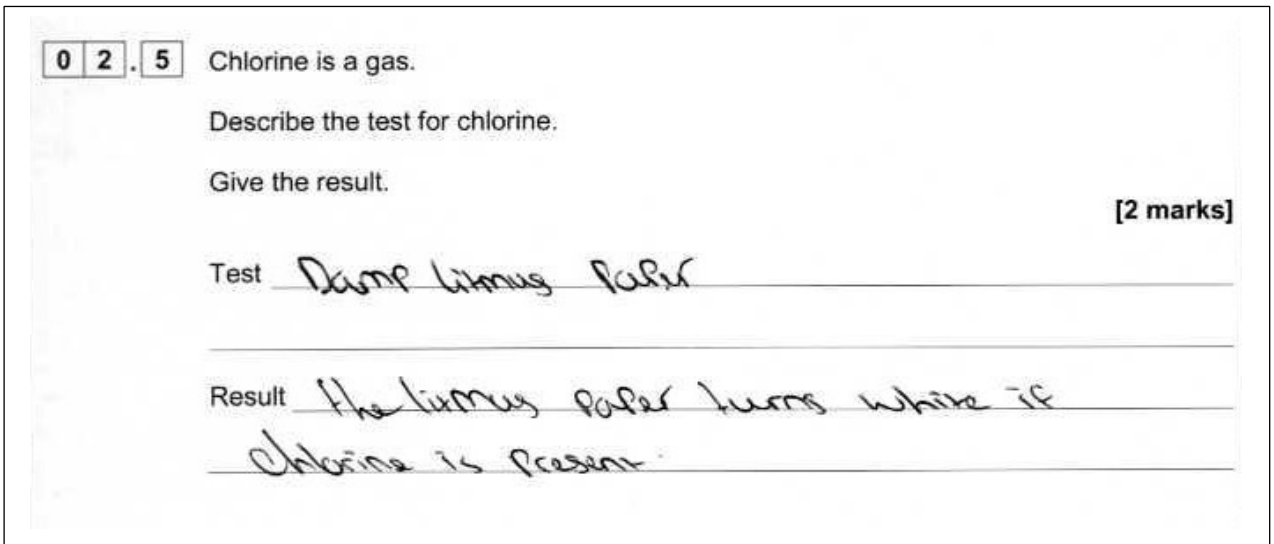
The most common wrong answer was D, with the main reason being that it had the highest melting point, followed by C because it had the lowest melting point or because it was closest to room temperature. The response of A was very rare.

02.2 Both marking points were not scored very often. White was the colour seen as one of the answers the greatest number of times, either correctly or incorrectly, but every combination of colours possible was seen with roughly equal regularity.

02.3 Most students gained the mark for this AO2 question. The most common incorrect responses simply stated 'the reversible symbol' without drawing or describing the symbol or copying out the symbol given in the question.

02.4 Just under half of all students gave the correct answer for this application question.

02.5 Very few responses showed knowledge of the test for chlorine, with nearly 80% of students not gaining any marks. Of the few that gained 1 mark many scored marking point 2 but did not describe the litmus paper as 'damp'. The tests for other gases such as hydrogen, oxygen, carbon dioxide and ammonia were all seen many times, with the 'squeaky pop test' being the most common.



This student has given the all the points required for both marks.

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