

Examiners' Report

Summer 2013

GCSE Chemistry (6CH03) Paper 1A/1B
Chemistry Laboratory Skills I

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Grade Boundaries

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6CH03/1A

General

The assessment scheme is now well established and runs smoothly for the great majority of centres. The administration of the scheme is exemplary for many centres. There are, however, a few centres that need to review their procedures and approach to the scheme. The issues affecting these centres are due to either the poor administration of the scheme or to inaccurate marking of the tasks or to both of these.

Centre assessors are advised to read this report and their E9 feedback. They should take appropriate action to correct any shortcomings in their application of the assessment scheme for 2013-2014.

Comments on the administration of the scheme

- The only b tasks valid for 2013-2014 are those posted on the Edexcel secure website from September, 2013. These are the b tasks ASB21-ASB24 and the most up to date versions of the c and d tasks. An additional preparation, ASD4, has been added to the tasks available. ASC1 has been replaced by ASC5.

Marks for ASC1 are no longer valid and will not be accepted for the rest of the duration of the qualification.

- Record sheets must be fully completed to include candidate names and numbers.

Centre and candidate numbers should be checked by centre assessors if they have been completed by the candidate. The moderators found a significant number of incorrect candidate numbers this year.

- Each assessment task cover sheet should be completed in full. It was common to see both candidate and centre numbers omitted.
- If the requested sample of work does not include that of the highest and lowest scoring candidate in the centre, the work of these must be added to the required sample.
- There continue to be centres that fail to include teacher's or expected values for the c tasks with the sample of work sent to the moderator. Ideally a completed Teacher's Values Form should be included and the work should be annotated to show the value of titre or temperature change against which accuracy marks are being awarded. Copies of spread sheets or marking grids used by the teachers should be included.
- It is expected that all of the work from a centre will have been marked to the same standard. If two or more teachers mark the tasks in a centre the moderator should have evidence that internal standardisation has taken place. A useful way to show this is for the two markers to annotate the work using different coloured inks. If just one teacher is responsible for the marking then a note stating this is appreciated by the moderators.

- As part of the moderation procedure, moderators complete an E9 feedback form. This is available to centres from results day in August. It is essential that centre assessors read and act upon any critical points made by the moderator.

Assessments

Activity a(GPC)

When the scheme was introduced in 2008 there were many questions from centres as to what was expected for these tasks. It is now the case that most centres are clear about this activity. A wide range of laboratory chemistry is noted by the moderators. Providing at least one each of a physical, an inorganic and an organic experiment is included in the five tasks listed, then the moderators do not comment on this part of the record sheet.

Activity b Qualitative observation

The four tasks available in 2012-2013 are no longer valid and must not be used for assessment of this activity in 2013-2014. Four replacement tasks, ASB21-ASB24, are to be found on the secure web site.

- Centre assessors should implement consequential marking as far as possible when marking these tasks. For example in ASB18 if **D** was identified as HCl in (a)(iii) then a correct equation in (c)(ii) for the reaction between HCl and sodium carbonate should have been awarded the marks.
- In ASB17(b)(ii) the expected observations included that steamy fumes are seen when PCl_5 was added to the chloride then white smoke was seen when the fumes were exposed to ammonia.
- When acidified dichromate(VI) oxidises an alcohol the final colour of the solution should be recorded as either blue or green. Candidates should be told to use one only of these colours in their answers.
- When a skeletal formula is asked for, then candidates should actually write this rather than any other. For example in ASB20(b)(iii) the skeletal formula of cyclohexene was required although, in fact, a correct displayed formula was accepted.
- The b tasks set for 2012-2013 are no longer secure and may be used as practice exercises.

Activity c Quantitative measurement

During the year task ASC1 was withdrawn and replaced by another acid-base titration, ASC5. Centres were informed of this change. Marks for ASC1 were not accepted.

- In spite of comments in previous reports and on E9 feedback forms significant figures continue to be a cause of marking error by centre assessors. In each of the four tasks at least one numerical answer must be given to the appropriate number of significant figures. This requirement is often overlooked by centre assessors.
- It is helpful to both the centre assessor and the moderator if the expected value of titre or temperature is written on the work close to the candidate's value and the difference shown.
- In the titration tables in ASC3 and ASC5 it is allowed to give the initial volume as 0 cm³. Candidates should be told that the mean titre should be given either to the nearest 0.05 cm³ or to two decimal places. Some teachers do not seem to be aware that the mark scheme for both of these titrations is followed by detailed notes giving further details on its implementation.

The four activity c tasks in the 2013-2014 scheme will be ASC2 – ASC5.

Activity d Preparation

As in previous years this activity gave the highest proportion of the maximum mark for many candidates.

- Candidates are allowed to work in pairs for this activity. It is a condition of the scheme, however, that the questions are answered individually.
- During the year the Hazchem information for some nickel compounds was changed. As a result of this an additional preparation will be available in the 2013 autumn term. The new ASD4 will be an alternative to ASD2.
- In ASD1 and ASD2 if the maximum mass has been calculated incorrectly then a corrected value should be used to re-calculate the percentage yield before marks are awarded.

The activity d tasks available in 2013-2014 are ASD1 – ASD4.

Summary

The moderators would like to thank centre assessors, candidates and technicians for their part in the implementation of the internal assessment scheme. Centre assessors must make absolutely sure that they are using only the versions of the assessment tasks for 2013-2014 that are posted on the Edexcel Chemistry website from September, 2013.

Centre assessors are encouraged to ask the Principal Moderator for guidance on the scheme through Ask the Expert. Those new to the scheme or requiring more guidance may also like to join one of the Edexcel training events on internal assessment.

6CH03/1B

General

As in previous years the marking and standardisation of the assessment tasks for this component were marked using the same mark schemes and standardising materials as the internally assessed 6CH03/1A option. This procedure ensures comparability between the two components. The grade boundaries for each component are the same.

Providing centres administer the scheme as instructed by Edexcel and send the correct work and information to the examiner, then candidates are fairly assessed and rewarded for their laboratory skills. Some centres, however, fail to implement all the procedures needed to operate the scheme rigorously and fairly. Teachers from these centres are strongly advised to read and, if necessary, act upon the comments in this report.

Comments on the administration of the scheme

- The only b tasks valid for 2013-2014 are those posted on the Edexcel secure website from September, 2013. These are the b tasks ASB21-ASB24 and the most up to date versions of the c and d tasks. An additional preparation, ASD4, has been added to the tasks available. ASC1 has been withdrawn and replaced by ASC5.

Marks for ASC1 are no longer valid and will not be accepted for the rest of the duration of the qualification.

- Record sheets must be fully completed to include candidate names and numbers.

Centre and candidate numbers should be checked by centre assessors if they have been completed by the candidate. The examiners found a significant number of incorrect candidate numbers this year.

- Only one each of an activity b, c and d task must be entered on the record sheet and in the correct spaces.
- Even though candidates may have completed two or more tasks for each activity, only the work for one of each activity must be sent to the examiner. It is up to teachers to choose which tasks to include for marking.
- Often teachers mark work themselves in order to decide which tasks are the highest scoring ones. It is most helpful to the examiner and can save confusion if any teacher marking is carried out in pencil. For this option teachers are asked not to enter marks on the record sheet.
- Each assessment task cover sheet should be completed in full. It was common to see both candidate and centre numbers omitted.
- For the activity c tasks it is essential that a completed Teacher's Values Form is included with the scripts sent to the examiner. Without this the examiner is unable to award marks for accuracy.

Assessments

Activity a(GPC)

It remains an essential condition of the assessment scheme that the five GPC tasks listed include at least one each of a physical, inorganic and organic practical exercise.

Activity b Qualitative observation

The four tasks available in 2012-2013 are no longer valid and must not be used for assessment of this activity in 2013-2014. Four replacement tasks, ASB21-ASB24, are to be found on the secure web site.

- In ASB17(b)(ii) the expected observations included that steamy fumes are seen when PCl_5 is added to a solid chloride then white smoke is seen when the fumes are exposed to ammonia.
- When acidified dichromate(VI) oxidises an alcohol the final colour of the solution should be recorded as either blue or green. Candidates should be told to use one only of these colours in their observations.
- When a skeletal formula is asked for then candidates should actually write this rather than any other. For example in ASB20(b)(iii) the skeletal formula of cyclohexene was required although, in fact, a correct displayed formula was accepted.
- The examiners mark consequentially whenever possible. For example in ASB19 the identity of the functional group in (c)(ii) was marked following the recorded colour of the precipitate in (c)(i).
- The b tasks set for 2012-2013 are no longer secure and may be used as practice exercises.

Activity c Quantitative measurement

During the year task ASC1 was withdrawn and replaced by another acid-base titration, ASC5. Centres were informed of this change.

- Significant figures continue to be a cause of lost marks by candidates. Many candidates obviously confuse significant figures with decimal points. In the new task, ASC5, answers to calculations are required to be given to three significant figures. Answers to the calculations in the other titration, ASC3 may also be given to this number of significant figures.
- When a sign is asked for to indicate whether a reaction is exothermic or endothermic this should be written even when it is positive. Unless this is done in the final calculation in ASC4 the second mark will not be awarded.
- In the titration tables in ASC3 and ASC5 it is allowed to give the initial volume as 0 cm³. Candidates should be told that the mean titre should be given either to the nearest 0.05 cm³ or to two decimal points. The mark schemes for both of these titrations are followed by detailed notes giving further details on its implementation.

The four activity c tasks in the 2013-2014 scheme are ASC2 – ASC5.

Activity d Preparation

As in previous years this activity gave the highest proportion of the maximum mark for many candidates.

- Candidates are allowed to work in pairs for this activity. It is a condition of the scheme, however, that the questions are answered individually.
- During the year the Hazchem information for some nickel compounds was changed. As a result of this an additional preparation will be available from September, 2013. ASD4 is an alternative to ASD2 although the latter is still included in the scheme.
- In ASD1 and ASD2 if the maximum mass has been calculated incorrectly then the examiner calculates a corrected value and uses this to re-calculate the percentage yield before marks are awarded.

The activity d tasks available in 2013-2014 are ASD1 – ASD4.

Summary

The examiners would like to thank teachers, candidates and technicians for their part in the implementation of the assessment scheme. Teachers must make absolutely sure that they are using only the versions of the assessment tasks for 2013-2014 that are posted on the Edexcel Chemistry website from September, 2013.

Teachers are encouraged to ask the Principal Examiner for guidance on the scheme through Ask the Expert. Those new to the scheme or requiring more guidance may also like to join one of the Edexcel training events on internal assessment.

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