AS level Chemistry A

H032/02 Depth in chemistry

Question Set 8

1. Sodium sulfide, Na_2S, is an ionic compound of sodium, Na, and sulfur, S.

(a) Draw a '*dot-and-cross*' diagram to show the bonding in sodium sulfide.

Show outer electrons only.

[2]

(b) The table below compares the properties of sodium sulfide, sodium and sulfur.

Complete the table.

		Sodium sulfide	**Sodium**	**Sulfur**
Melting point / °C		1180	98	113
Type of structure (**giant** or **simple**)				
Electrical conductivity (**good** or **poor**)	solid			
	liquid			

[3]

(c) Selenium is in the same group of the periodic table as sulfur.

(i) Complete the full electron configuration of a selenium atom.

$1s^2$ ……

[1]

(ii) Sodium selenide reacts with hydrochloric acid to form a toxic gas, **B**, with a relative molecular mass of 81.0.

Identify gas **B** and write an equation for this reaction.

[2]

Total Marks for Question Set 2: 8

OCR
Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge