FOUNDATION

2.9 Chemical Analysis: 10-minute Pack

AQA 8462 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 State a laboratory observation that would show a sample is impure when it is melted.

(a) What observation on melting would suggest the sample is impure? **(1)**

(Total for Question 1 is 1 mark)

2 Describe a simple method to obtain a pure sample of a soluble ionic substance from its aqueous solution.

(a) Describe the steps to obtain solid from solution. **(2)**

(Total for Question 2 is 2 marks)

3 Chromatography separates mixture components. Answer parts a and b.

(a) Explain briefly how paper chromatography separates different coloured dyes. **(1)**

(b) State one practical use of chromatography in chemistry. **(1)**

(Total for Question 3 is 2 marks)

© Revision Library | revisionlibrary.co.uk

4 Describe the simple test for hydrogen gas and the observation that confirms hydrogen is present.

(a) Test and observation for hydrogen gas. **(1)**

(Total for Question 4 is 1 mark)

5 A student dissolves 1.50 g of a soluble salt in 250 cm^3 of water. Calculate the concentration in g per dm3. Show your working.

(a) Calculate concentration in g per dm3. **(2)**

(Total for Question 5 is 2 marks)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 2.9 Chemical Analysis: 10-minute Pack

Question 1

(a) melts over a wide range of temperatures or does not have a sharp melting point **B1**

(a) Answer: It melts over a wide range of temperatures rather than at a sharp melting point.

Question 2

(a) evaporate some solvent or heat to concentrate until crystals form (evaporation/crystallisation) **B1**

(a) cool the concentrated solution and filter off crystals, then dry the crystals **B1**

(a) Answer: Evaporate the solvent or concentrate the solution until crystals start to form, cool, filter off the crystals and dry them to obtain a pure solid.

Question 3

(a) different dyes travel different distances because they have different solubilities in the solvent and different attraction to the paper **B1**

(a) Answer: Dyes travel different distances because they have different solubilities in the solvent and different attraction to the paper.

(b) to identify substances in an ink, food colouring or drug testing, oe **B1**

(b) Answer: To identify substances in inks, food colourings or to check purity of a sample.

Question 4

(a) bring a lighted splint near the gas and a squeaky pop or small explosion is heard **B1**

(a) Answer: Bring a lighted splint near the gas; a squeaky pop sound shows hydrogen is present.

Question 5

(a) converts volume and substitutes: concentration = 1.50 g / 0.250 dm3 **M1**

(a) 6.0 g per dm3 cao **A1**

(a) Answer: 6.0 g per dm3

© Revision Library | revisionlibrary.co.uk