

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use Total Task 2



General Certificate of Education  
Advanced Level Examination  
June 2011

**Chemistry**

**CHM6X/PM2**

**Unit 6X A2 Externally Marked Practical Assignment**

## Task Sheet 2

To be completed before the EMPA Written Test

For submission by 15 May 2011

**For this paper you must have:**

- a ruler
- a calculator.

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### The investigation of a weed killer

The aim of Task 2 is to determine the concentration of iron(II) ions in the weed killer by titration of a solution of the weed killer with a  $0.0200 \text{ mol dm}^{-3}$  solution of potassium manganate(VII).

#### Task 2 Titration

**Wear eye protection at all times.**

**Assume that all of the solutions are toxic and corrosive.**

#### Procedure

- 1 Rinse the burette with the potassium manganate(VII) solution provided. Set up the burette and use a funnel to fill it with the potassium manganate(VII) solution. Record the initial burette reading in a table of your own design on the Candidate Results Sheet for Task 2.
- 2 Use a pipette filler to rinse the pipette with the weed killer solution provided. Use this pipette to transfer  $25.0 \text{ cm}^3$  of the weed killer solution to a  $250 \text{ cm}^3$  conical flask.
- 3 Use a measuring cylinder to transfer approximately  $10 \text{ cm}^3$  of dilute sulfuric acid to the conical flask.
- 4 Add the potassium manganate(VII) solution from the burette until the mixture in the conical flask just turns pink. Record your final burette reading in your table.
- 5 Rinse the conical flask with distilled or deionised water and repeat the titration until you obtain **two** concordant titres. You should do no more than five titrations.

**Have one of your final burette readings checked by your teacher.**

- 6 Calculate and record the average titre on the Candidate Results Sheet for Task 2. Indicate clearly the titres that you used in calculating this average titre.

You are not required to carry out any further calculations on the Candidate Results Sheet for Task 2. You will use your results to determine the concentration of iron(II) ions in the weed killer in **Section A** of the Written Test.

**Candidate Results Sheet for Task 2**

Teacher Group .....

**Results**

Record your titration results in an appropriate table in the space below.

Average titre / cm<sup>3</sup> .....

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R		P	
C		A	

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**There are no questions printed on this page**

**DO NOT WRITE ON THIS PAGE  
ANSWER IN THE SPACES PROVIDED**