

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use Total Task 2



General Certificate of Education
Advanced Subsidiary Examination
June 2014

Chemistry

CHM3X/PM2

Unit 3X AS Externally Marked Practical Assignment

Task Sheet 2

To be completed before the EMPA Written Test

For submission by 15 May 2014

For this paper you must have:

- a ruler
- a calculator.

Task 2

A qualitative investigation of some additives used in foods

Compounds **P** and **Q** are sometimes used as additives in baby foods.

You are provided with aqueous solutions of **P** and **Q**. The aim of Task 2 is to carry out a series of tests on solution **P**, and a different series of tests on solution **Q**.

For each of the following tests, record what you **observe** in a table of your own design on the Candidate Results Sheet for Task 2. Where no visible change is observed, write 'no visible change'.

You are **not** required to identify solutions **P** or **Q** or any of the reaction products in this task.

Procedure

- **Wear eye protection at all times.**
- **Assume that all solutions are toxic and corrosive.**

Tests on solution P

Use a separate sample of solution **P** as required in each of the following tests.

Test 1(a) Test with dilute nitric acid and silver nitrate solution

Place about 10 drops of solution **P** in a clean test tube.

Add about 10 drops of dilute nitric acid, followed by about 5 drops of silver nitrate solution. Shake the mixture.

Keep this mixture for Test 1(b).

Test 1(b) Test with dilute ammonia solution

To your mixture from **Test 1(a)**, add dilute ammonia solution, dropwise with gentle shaking, until in excess. The test tube should **not** be more than half full.

Test 2 Test with dilute sulfuric acid

Place about 10 drops of solution **P** in a clean test tube.

Add about 10 drops of dilute sulfuric acid. Shake the mixture.

Test 3 Test with sodium hydroxide solution

Place about 10 drops of solution **P** in a clean test tube.

Add about 10 drops of sodium hydroxide solution for Task 2. Shake the mixture.

Now continue to add this sodium hydroxide solution, dropwise with gentle shaking, until in excess. The test tube should **not** be more than half full.

Tests on solution Q**Test 4 Test with dilute hydrochloric acid and barium chloride solution**

Place about 10 drops of solution **Q** in a clean test tube.
Add about 10 drops of dilute hydrochloric acid, followed by about 10 drops of barium chloride solution. Shake the mixture.

Test 5 Flame test

Take one of the wooden splints from the beaker labelled 'splints soaked in solution **Q**'. Adjust a Bunsen burner until the flame is blue but not roaring. Hold the splint in the Bunsen burner flame and record the colour observed. Ignore any orange/yellow colour caused by impurities containing sodium ions.

You will use your results in **Section A** of the Written Test.

Turn over for the Candidate Results Sheet for Task 2

Turn over ►

Candidate Results Sheet for Task 2

Teacher Group

Results

Record your observations in an appropriate table of your own design in this space.

[6 marks]

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