Homework

Name Class Date

**1** A white solid compound is dissolved in distilled water. A few drops of a dilute acid are added to it, followed by a few drops of barium chloride solution. A precipitate forms.

**a** Name the dilute acid that must be used in this test.

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**b** Give the colour of the precipitate formed when barium chloride solution is added.

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**c Sulfate ions** are detected using this chemical test. Give the formula of the sulfate ion.

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**2** A few drops of a dilute acid are added to a white compound. Bubbles of gas are produced.

**a** Describe a chemical test to confirm that the gas produced is carbon dioxide. State what you would do and what you would see.

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**b** Name the ion in the white compound that is shown to be present if carbon dioxide is produced.

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**3** A few drops of a dilute acid are added to a colourless compound, followed by a few drops of silver nitrate solution. A white precipitate forms.

**a** Name the dilute acid that must be used in this test.

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**b** Give the name and formula for the ion that this chemical test detects.

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**c** The chemical test was repeated with sodium iodide solution and with potassium bromide solution. Describe how you could distinguish between these two solutions.

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**4** A student carries out some research on barium chloride. This is what he finds.

Barium chloride

Barium chloride solid is toxic if swallowed and harmful if inhaled. Barium chloride solutions are toxic at or above 208 g/dm3 and harmful below this concentration. Barium chloride solutions with concentrations below 83 g/dm3 are suitable for most school experiments by students who are aged 16 or under.

Suggest reasons that explain why 21 g/dm3 barium chloride solution is suitable for use by students in the chemical test for sulfate ions.

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