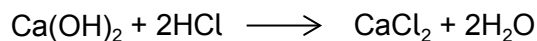


6 This question is about reactions of calcium compounds.

0 6 . **1** A pure solid is thought to be calcium hydroxide. The solid can be identified from its relative formula mass.

The relative formula mass can be determined experimentally by reacting a measured mass of the pure solid with an excess of hydrochloric acid. The equation for this reaction is



The unreacted acid can then be determined by titration with a standard sodium hydroxide solution.

You are provided with 50.0 cm³ of 0.200 mol dm⁻³ hydrochloric acid. Outline, giving brief practical details, how you would conduct an experiment to calculate accurately the relative formula mass of the solid using this method.

[8 marks]

0 6 . **2** A 3.56 g sample of calcium chloride was dissolved in water and reacted with an excess of sulfuric acid to form a precipitate of calcium sulfate.

The percentage yield of calcium sulfate was 83.4%.

Calculate the mass of calcium sulfate formed.

Give your answer to an appropriate number of significant figures.

[3 marks]

Mass of calcium sulfate formed = _____ g

Turn over for the next question