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This question is about the chemical properties of chlorine, sodium chloride and sodium bromide.

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1

Sodium bromide reacts with concentrated sulfuric acid in a different way from sodium chloride.

Write an equation for this reaction of sodium bromide and explain why bromide ions react differently from chloride ions.

[3 marks]

Equation

Explanation _____

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2

A colourless solution contains a mixture of sodium chloride and sodium bromide.

Using aqueous silver nitrate and any other reagents of your choice, develop a procedure to prepare a pure sample of silver bromide from this mixture.

Explain each step in the procedure and illustrate your explanations with equations, where appropriate.

[6 marks]

0 5 . 3 Write an ionic equation for the reaction between chlorine and cold dilute sodium hydroxide solution.
Give the oxidation state of chlorine in each of the chlorine-containing ions formed. **[2 marks]**

Turn over for the next question