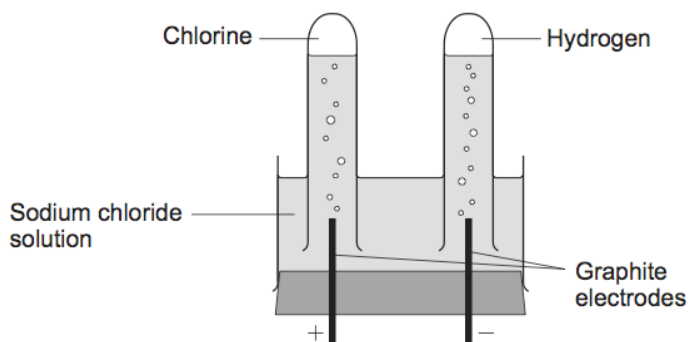


Electrolysis of Brine and Aluminium Production

Do not write
outside the
box

- 1 Sodium chloride solution can be used to produce hydrogen gas and chlorine gas.
A student did an experiment to produce hydrogen and chlorine gas.
The diagram shows the apparatus involved.



- 1 (a) (i) Describe what happens at the negative electrode when a current is flowing.

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(3 marks)

- 1 (a) (ii) Balance the equations for the reactions at the electrodes.



(2 marks)

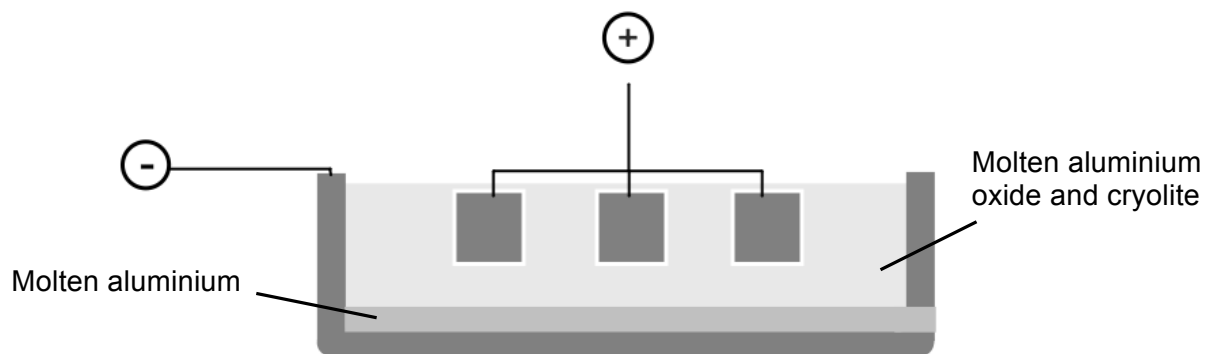
- 1 (a) (iii) Name the other substance that is produced by this method.

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(1 mark)

(Total 6 marks)

2 The diagram shows a cell that is used to produce aluminium.

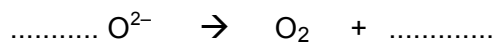


2 (a) (i) Oxygen is produced at the positive electrode. Cryolite is required in the process. Explain why.

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(2 marks)

2 (a) (i) Complete and balance the equation for this reaction.



(2 marks)

2 (a) (ii) The positive electrodes in the cell are made of graphite. They have to be replaced often. Explain why.

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(2 marks)

(Total 6 marks)

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