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GCSE Chemistry C6 - AQA

Electrolysis

Assignment Questions

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Year 2022

C6: Electrolysis

Q1: What is electrolysis?

Q2: In electrolysis of Sodium Chloride solution, what are the changes at anode and cathode. Write the half equations including the state symbols for these changes. Explain why solution remains after electrolysis is alkaline.

Q3: Write down the half equations for discharge of:

- i) Magnesium ions
- ii) Bromide ions

Q4: Explain why aluminium cannot be obtained by reacting aluminium oxide with carbon.

Q5: With diagram write the detail explanation of extraction from Aluminium Oxide (Al_2O_3).

Include the following in explanation:

- a) Use of cryolite
- b) Why graphite electrodes need replacing during electrolysis
- c) Half equations including the state symbols for changes at anode and cathode.

Q6: A student carries two experiments using copper chloride, CuCl_2 .

- ❖ In experiment one student placed two graphite electrodes into copper chloride powder in a beaker, she then connects the electrodes to a d.c electricity supply and observe no visible changes at either of electrodes.
- ❖ In experiment two student she adds water to dissolve copper chloride. She reconnects the electrodes to d.c. supply and observe brown solid formed on cathode and bubbles of a yellow-green gas released on anode.

Explain differences between the results in above two experiments.

With detailed half equations explain the formation of products of copper chloride solution.