



Year 12 Chemistry
HSC ER Questions 9.5.F – Sodium Carbonate

Module 9.5 – Industrial Chemistry

Topic 9.5.F – Sodium Carbonate

Name

Date

2011

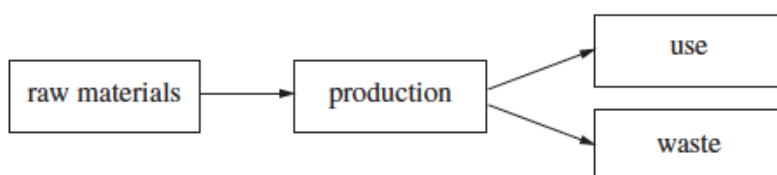
- (b) (i) Why are the large volumes of $\text{CO}_2(\text{g})$ produced during the Solvay process of little environmental concern? Include chemical equations in your answer. 3
- (ii) Calcium chloride is also produced during the Solvay process. Calculate the mass of calcium chloride produced per tonne of sodium chloride used in the Solvay process. 2
- (e) Evaluate the impact on society of the environmental issues associated with THREE of the industrial processes that you have studied in this option. 7

2010

- (e) Assess both the importance and resulting environmental impacts of using limestone in the Solvay Process. 7

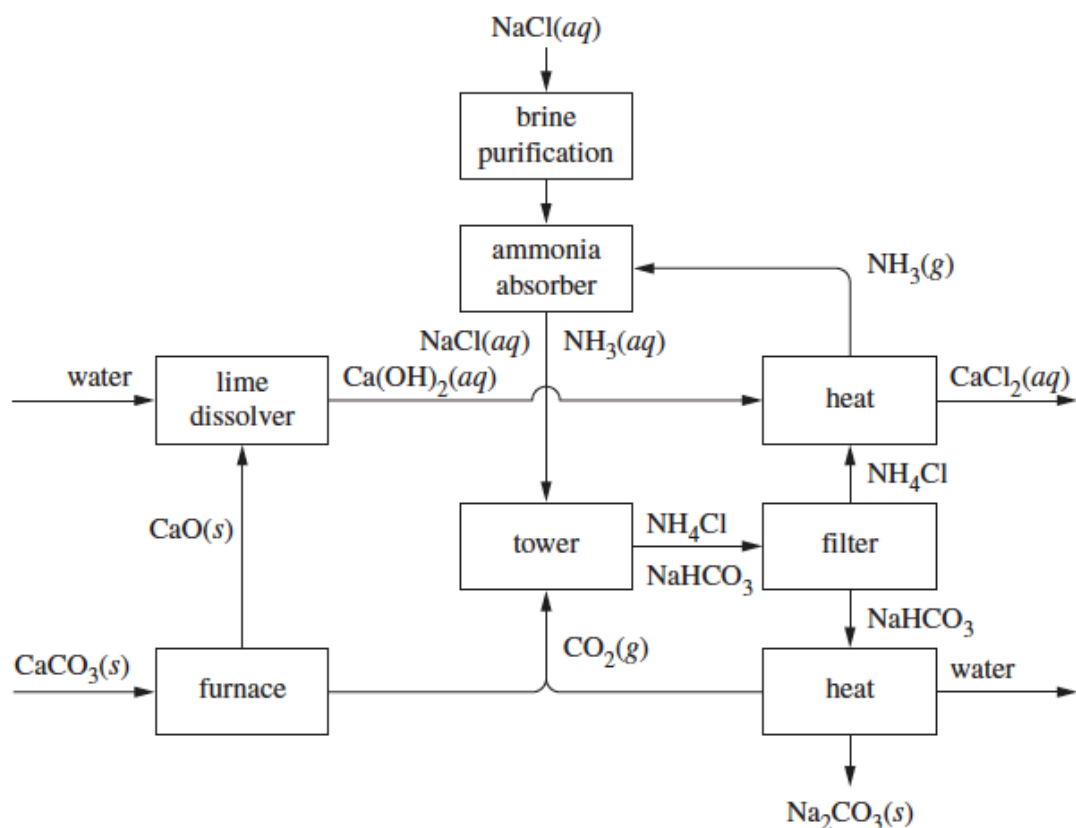
2009

- (e) The flowchart summarises the fundamental criteria that must be considered in order to find a suitable location for an industrial plant. 7



With reference to the flowchart, explain the significance of each criterion to determine a suitable location for an industrial plant to manufacture sodium carbonate.

- (a) The diagram is a flowchart of the reactions involved in an important industrial process.



- (i) Identify this industrial process and write a balanced equation to represent the overall chemical reaction that occurs. 2
- (ii) The products of the reaction formed in the tower are sodium hydrogen carbonate and ammonium chloride. 2

Describe how these two substances are separated.