
SL Paper 2

Chloroethene, $\text{C}_2\text{H}_3\text{Cl}$, is an important organic compound used to manufacture the polymer poly(chloroethene).

a.i. Draw the Lewis structure for chloroethene and predict the $\text{H}-\text{C}-\text{Cl}$ bond angle. [2]

a.ii. Draw a section of poly(chloroethene) containing six carbon atoms. [1]

a.iii. Outline why the polymerization of alkenes is of economic importance and why the disposal of plastics is a problem. [2]

b.i. Chloroethene can be converted to ethanol in two steps. For each step deduce an overall equation for the reaction taking place. [2]

Step 1:

Step 2:

b.ii. State the reagents and conditions necessary to prepare ethanoic acid from ethanol in the laboratory. [2]

b.iii. State an equation, including state symbols, for the reaction of ethanoic acid with water. Identify a Brønsted-Lowry acid in the equation and its conjugate base. [3]
