

## Addition polymers and their uses

The table gives some information about monomers and the polymers that are made from them.

| Name and structure of monomer   | Name and structure of polymer  |
|---|--|
| Ethene<br><br>$\begin{array}{c} \text{H} & \text{H} \\   &   \\ \text{C} & - & \text{C} \\   &   \\ \text{H} & \text{H} \end{array}$        | Poly(ethene)<br><br>$\left[ \begin{array}{c} \text{H} & \text{H} \\   &   \\ -\text{C} & - & \text{C}- \\   &   \\ \text{H} & \text{H} \end{array} \right]_n$      |
| Chloroethene<br><br>$\begin{array}{c} \text{Cl} & \text{H} \\   &   \\ \text{C} & - & \text{C} \\   &   \\ \text{H} & \text{H} \end{array}$ | Poly(chloroethene)   |
| Phenylethene  | .....<br><br>$\left[ \begin{array}{c} \text{H} & \text{C}_6\text{H}_5 \\   &   \\ -\text{C} & - & \text{C}- \\   &   \\ \text{H} & \text{H} \end{array} \right]_n$ |

1 Complete the table.

2 What is meant by the term 'monomer'?

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3 What structural feature do these monomers have which enables them to be polymerised?

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4 Poly(ethene) can sometimes be used in place of steel. Give **one** advantage of using poly(ethene) in this way.

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5 Poly(chloroethene) is used to make coverings for electrical cables. It has replaced rubber for this use.

a State **two** properties of poly(chloroethene) that are common to plastics in general, and make it suitable for this use.

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b State **two** ways in which poly(chloroethene) is better than rubber for this use.

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6 Draw the structure of tetrafluoroethene and its polymer.

7 Describe **two** environmental problems that are associated with the disposal of plastics.

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