

Topic 5

Plastics

1

- Polymers:

- plastics are examples of materials known as polymers;
- polymers are long chain molecules formed by joining together a large number of small molecules called monomers.

2

- Addition polymerisation:

- addition polymerisation is the name given to a chemical reaction in which unsaturated monomers are joined, forming a polymer;
- the names of addition polymers are derived from the name of the monomer used;
- brackets can be used in polymer names to aid identification of the monomer unit.

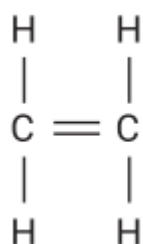
3

- Representation of the structure of monomers and polymers:

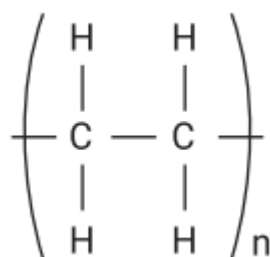
- a repeating unit is the shortest section of polymer chain which, if repeated, would yield the complete polymer chain (except for the end-groups);
- the structure of a polymer can be drawn given either the structure of the monomer or the repeating unit;
- from the structure of a polymer, the monomer or repeating unit can be drawn.

Example of a monomer

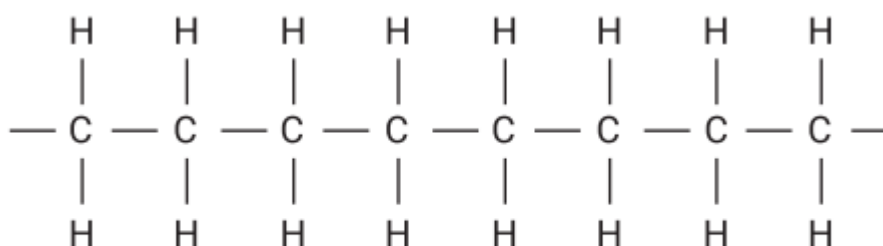
ethene



Example of a repeat unit



Example of a polymer



a poly(ethene) polymer chain