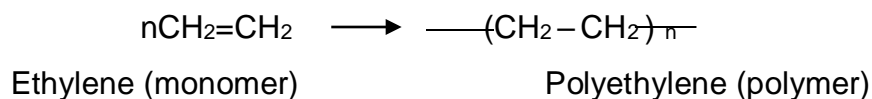




POLYMERS

Polymers are macromolecules (giant molecules of higher molecular weight) formed by the repeated linking of large number of small molecules called monomers.

Example: Polyethylene is a polymer formed by the repeated linking of large number of ethylene molecule.



MONOMER

Monomer is a micro molecule (small molecule) which combines with each other to form a polymer.

Examples:

S.No.	Monomer	Repeating unit in the polymer
1	$\text{CH}_2=\text{CH}_2$ Ethylene	$-\text{CH}_2-\text{CH}_2-$ Polyethylene
2	$\begin{array}{c} \text{CH}_2=\text{CH} \\ \\ \text{CH}_3 \end{array}$ Propylene	$\begin{array}{c} -\text{CH}_2-\text{CH}- \\ \\ \text{CH}_3 \end{array}$ Polyethylene
3	$\begin{array}{c} \text{CH}_2=\text{CH} \\ \\ \text{Cl} \end{array}$ Vinyl Chloride	$\begin{array}{c} -\text{CH}_2-\text{CH}- \\ \\ \text{Cl} \end{array}$ Polyvinyl Chloride (PVC)
4	$\begin{array}{c} \text{CH}_2=\text{CH} \\ \\ \text{CN} \end{array}$ Acrylonitrile	$\begin{array}{c} -\text{CH}_2-\text{CH}- \\ \\ \text{CN} \end{array}$ Polyacrylonitrile (PAN)
5	$\begin{array}{c} \text{CH}_2=\text{CH} \\ \\ \text{C}_6\text{H}_5 \end{array}$ Styrene	$\begin{array}{c} -\text{CH}_2-\text{CH}- \\ \\ \text{C}_6\text{H}_5 \end{array}$ Polystyrene

NOMENCLATURE OF POLYMERS

1. Homo polymer :

- If the polymer chain contains same type of monomer, it is “Homo *polymer*”.

Example : PVC structure: A – A – A- A- A-A -A

2. Hetero polymer :

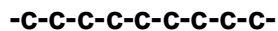
- If the polymer chain contains different type of monomer, it is “*Hetero polymer*”.

Example : Nylon A-B- A-A-A-B-A



3. Homo chain polymer :

- If the main polymer chain is made up of a same species of atoms, it is called Homochain polymer.



4. Hetero chain polymer :

- If the main polymer chain is made up of a different type of atoms, it is called hetero chain polymer.

