



POLYMERS

Polymers are <u>macromolecules</u> (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.

nCH₂=CH₂
$$\longrightarrow$$
 (CH₂-CH₂) $\stackrel{}{\text{n}}$
Ethylene (monomer) Polyethylene (polymer)

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	$CH_2=CH_2$	-CH ₂ - CH ₂ -
	Ethylene	Polyethylene
2	CH ₂ =CH	–CH₂–CH–
	CH3	CH3
	Propylene	Polyethylene
3	CH ₂ =CH	–CH₂–CH–
	Cl	Cl
	Vinyl Chloride	Polyvinyl Chloride (PVC)
4	CH ₂ =CH	–CH₂–CH–
	CN	CN
	Acrylonitrile	Polyacrylonitrile (PAN)
5	CH ₂ =CH	−CH ₂ −CH−
	C ₆ H ₅	C ₆ H ₅
	Styrene	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

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.

-C-C-C-C-C-C-C-

4. Hetero chain polymer:

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

-C-C-O-C-C-C-C-