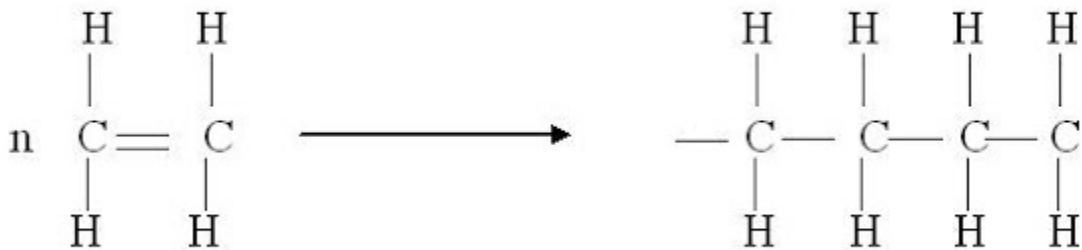


STUDY ON POLYMERS

Polymers are macro molecules built-up by the linking together of large number of small molecules called monomers. The number of repeating units in a polymer is known as the degree of polymerization.

In general, most of the polymers fall into the 5000-200,000 molecular mass range.

Eg:



Properties:

Physical:

Polymers are in the form of crystal or amorphous or crystallites embedded with an amorphous matrix.

Thermal:

Below glass transition temperature, they are in hard condition and above the glass transition temperature they become soft nature.

Optical:

The appearance of a transparent plastics and opaque plastics are characterized by its transmittance or reflectance properties respectively.

Chemical:

Chemically resistant.

Eg:

1. Polymers having polar groups are chemically resistant to non-polar solvents.
2. Similarly, polymers having non-polar groups are chemically resistant to polar solvents.

Electrical:

In general, Polymers are insulators due to their wide band gap. Now a days, we can manufacture conducting polymers by synthetic methods.

Classifications:

On the basis of monomer unit.

Homo polymer

Co-polymer.

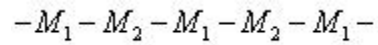
Homo polymer:

They are made up of identical monomer units.



Co-polymer:

They are having different kinds of monomer units.



Important classification:

Polymers can be classified into following three types.

- Plastics (resins)
- Elastomers (rubber)
- Fibers (nylon).

Source : <http://mediatoget.blogspot.in/2011/08/polymers.html>