

SNS COLLEGE OF TECHNOLOGY



Polyvinyl Chloride (PVC):

It is obtained by heating a water emulsion of vinyl chloride in the presence of s small amount of benzoyl peroxide or hydrogen peroxide in an autoclave under pressure.

Polymerization $nCH_2 = CHCl \rightarrow -(CH_2-CHCl)_n - H_2O_2$

Vinyl Chloride

Polyvinyl chloride

Properties: PVC is non flammable, chemically inert powder. It is colourless and odourless. It shows resistance to light and atmospheric oxygen. It undergoes degradation in the presence of heat and light.

Uses: It is used for making sheets which are employed for tank lining, light fitting, safety helmets, refrigerator components, mudguards etc.,

It is used in the production of pipes, cable insulators, table covers, and rain coats etc.,

Teflon (Poly tetra fluoro ethylene):

It is obtained by polymerization of water emulsion of tetra fluoro ethylene under pressure in the presence of benzoyl peroxide

Polymerization

 $nCF_2 = CF_2 \longrightarrow -(CF_{2-}CF_2)_n -$

Benzoyl peroxide

Tetra fluoro ethylene Poly tetra fluoro ethylene

Properties:

Teflon is extremely tough, flexible and the softening temperature is about 350 C. It has high chemical resistance towards all chemicals except hot alkali metal and hot fluorine. It has good electrical and mechanical properties. It shows good thermal stability.

Uses: A good insulating material (for motors, transformers, cables, wires, fittings etc.) It is also used for making gaskets, packagings, pump parts, tank linings etc.