

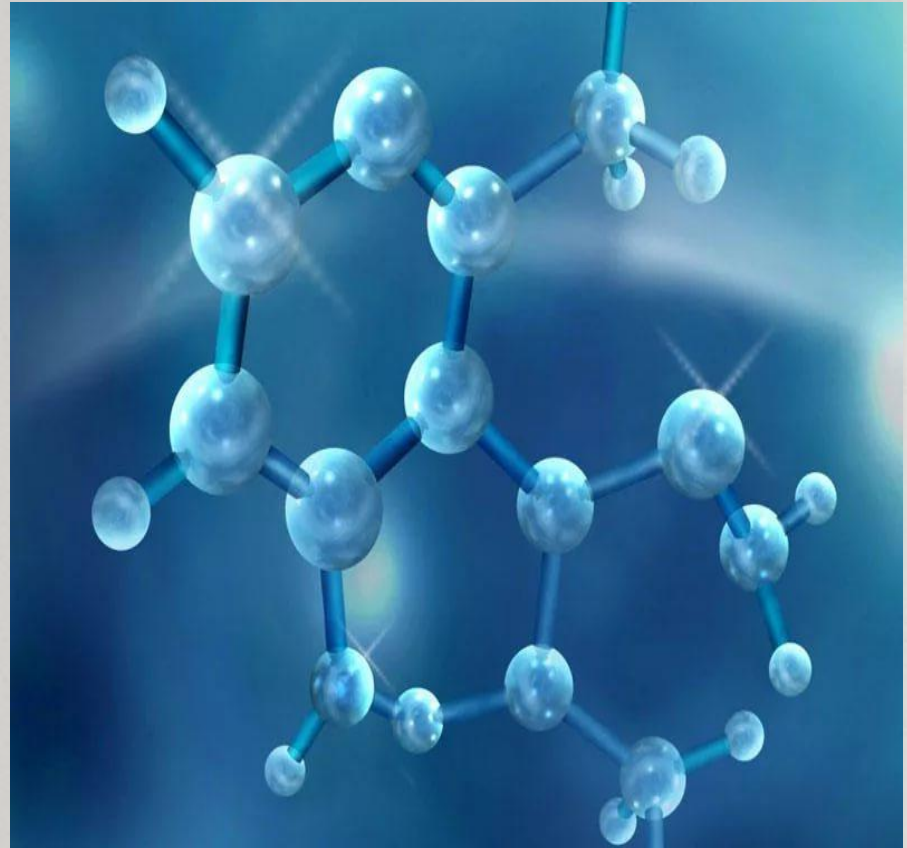
Plastics

made: Yeldos Abitayev

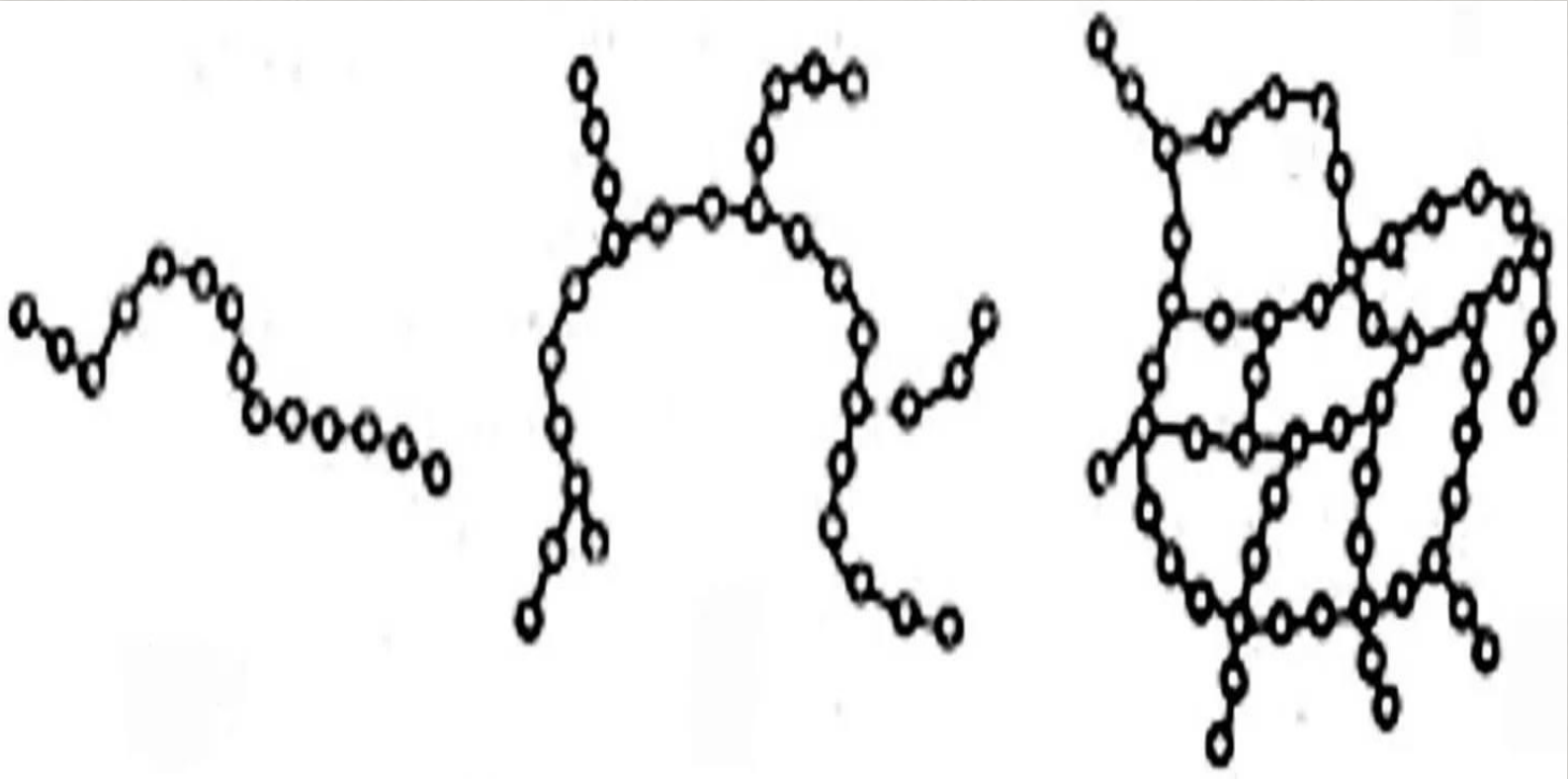
Plastics are non-metallic, synthetic, **carbon-based** materials. They can be **moulded**, shaped, or extruded into **flexible** sheets, films, or **fibres**.



Plastics are synthetic polymers. Polymers consist of long-**chain** molecules made of large numbers of **identical** small **molecules** (monomers). The chemical nature of a plastic is defined by the monomer (repeating unit) that makes up the chain of the polymer



The giant molecules of which polymers consist may be linear, **branched**, or cross-linked, depending on the plastic. Linear and branched molecules are thermoplastic (soften when heated), whereas cross-linked molecules are **thermosetting** (harden when heated).



Most plastics are **synthesized** from organic **chemicals** or from natural gas or coal. Plastics are light-weight compared to metals and are good electrical insulators. The best insulators now are epoxy resins and teflon. Teflon or polytetrafluoroethene (PTFE) was first made in 1938 and was produced commercially in 1950.





The end