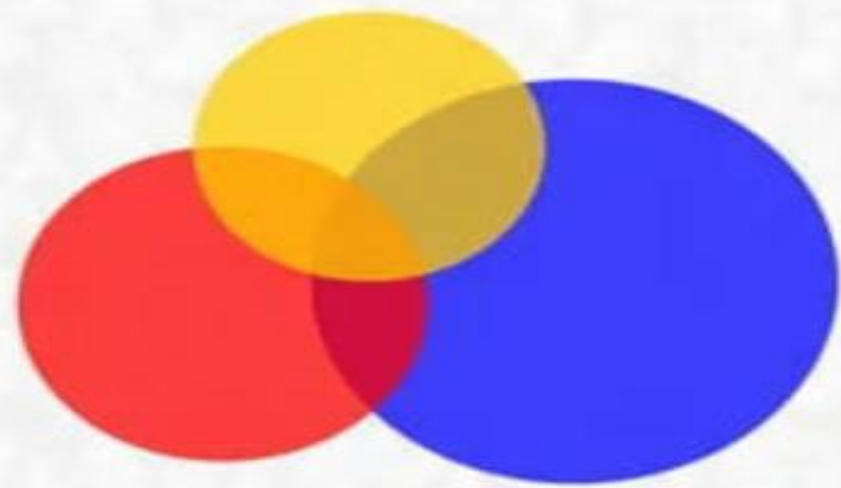




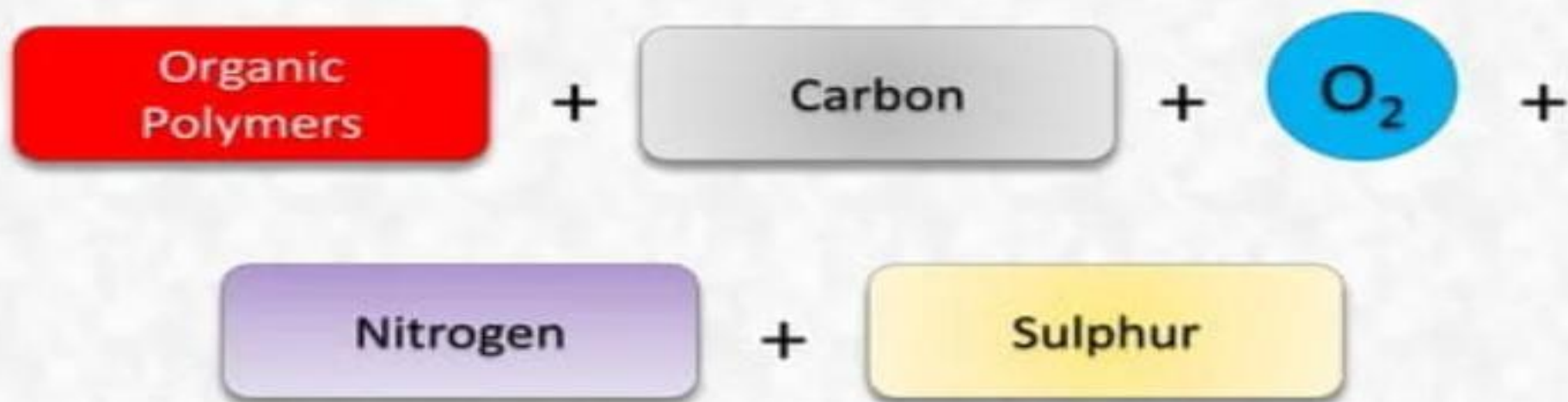
plastic



plastic

Plastic is a synthetic material made from a wide range of organic polymers such as polyethylene, PVC, nylon, etc., that can be moulded into shape while soft, and then set into a rigid or slightly elastic form.

Composition of plastic



Organic Polymers may include:

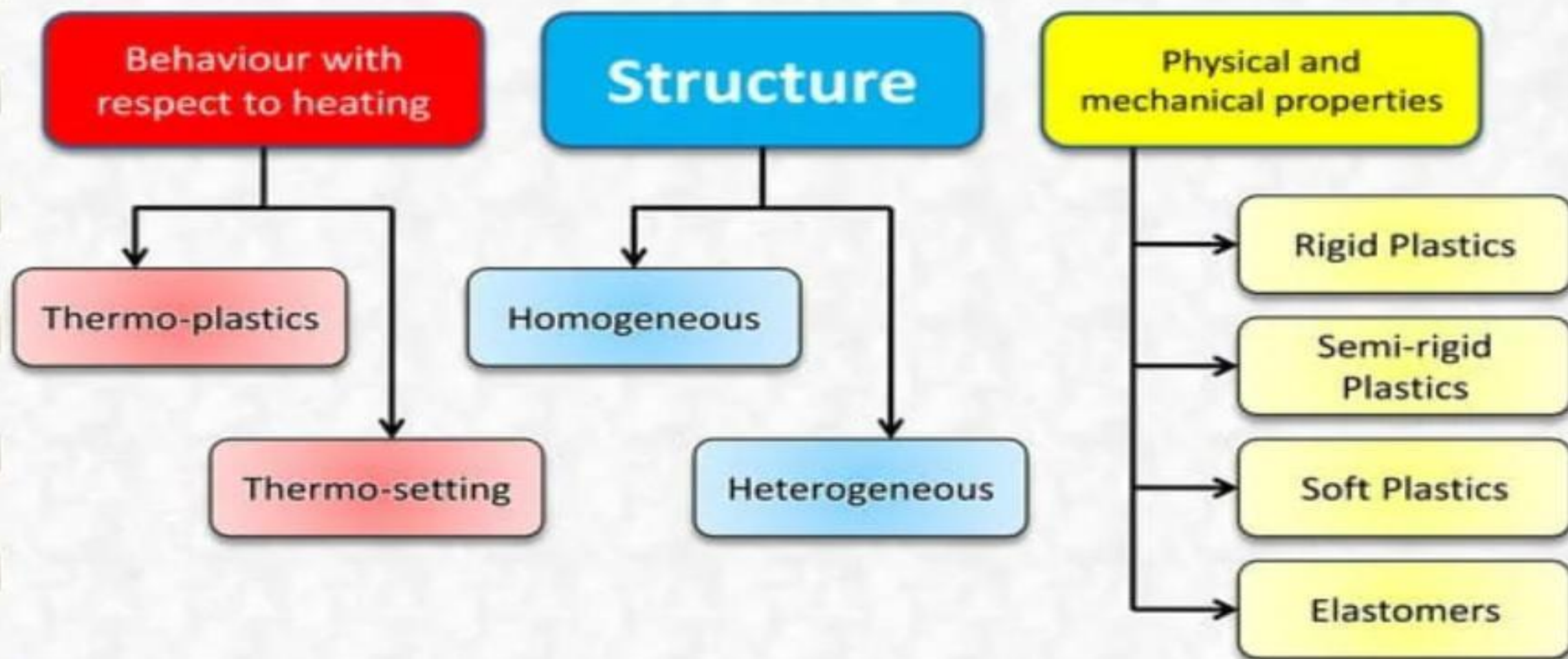
CHALK, STARCH, IVORY DUST, WOOD FLOOR, ZINC OXIDE

Classification of plastic

There are many ways of classifying plastics. They can be classified considering various aspects, as according to their:

1. Behaviour with respect to heating,
2. Structure, and
3. Physical and mechanical properties.

Classification of plastic



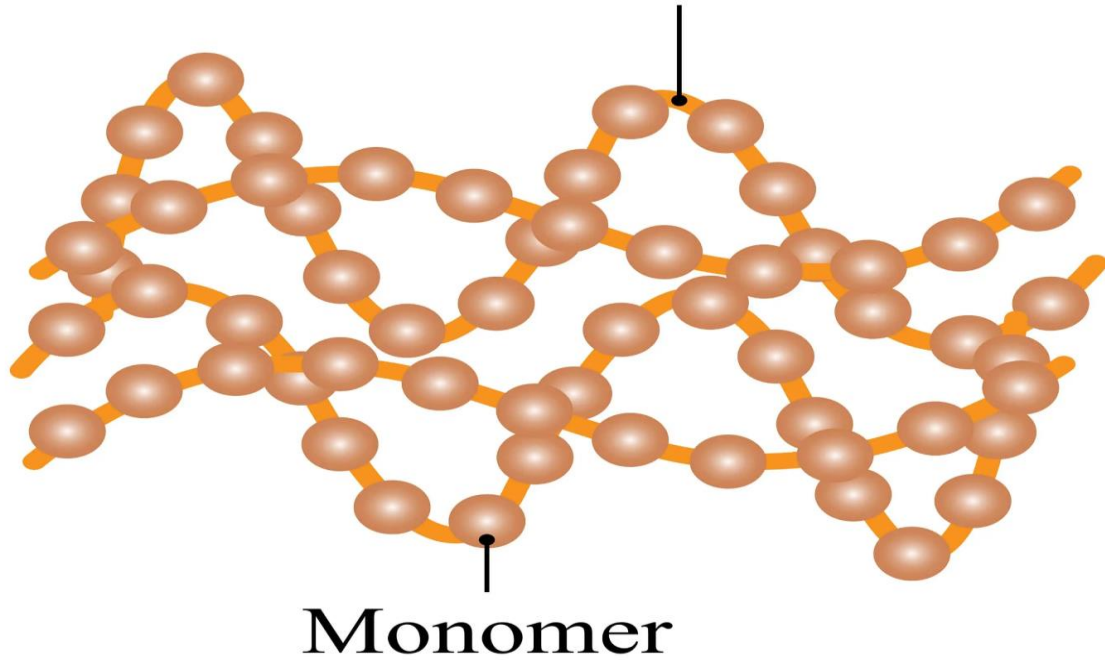
Thermoplastic & thermosetting

Basic difference between Thermoplastics and Thermosetting plastics

THERMOPLASTICS	THERMO-SETTING PLASTICS
Thermoplastics variety softens by heat and hardens when cooled down. It can be used by remolding as many times as required.	Thermosetting plastics can not be reused .This variety requires a great pressure and momentary heat during molding which hardens on cooling.

Thermoplastic

Strong link into polymer chains



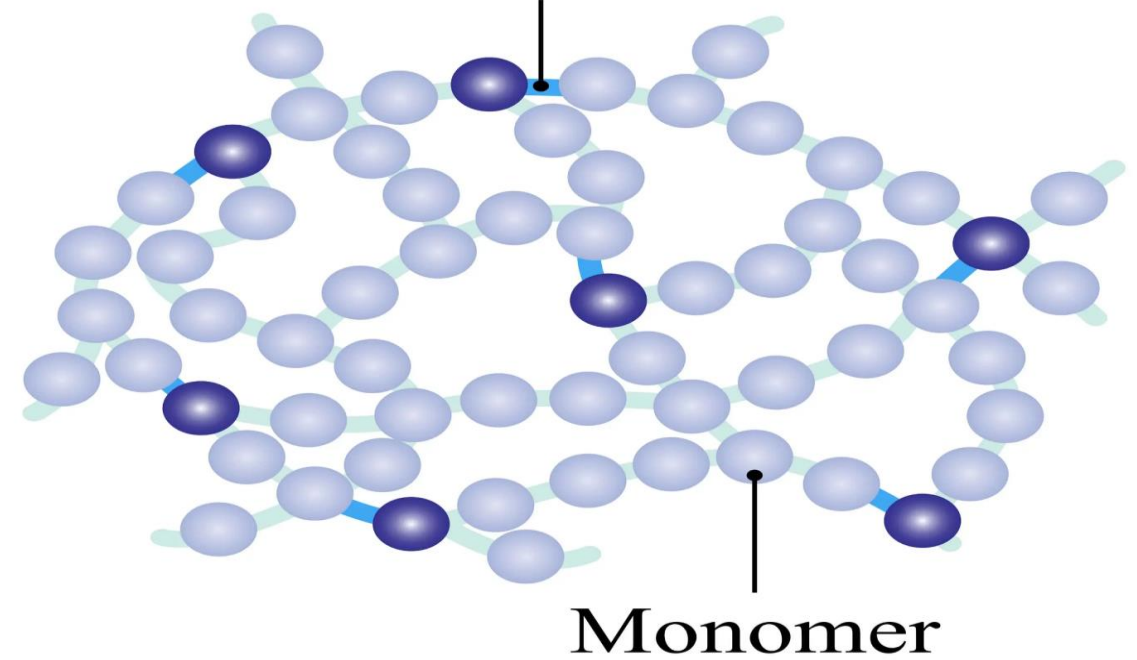
Weak intermolecular forces
between polymer chains

No cross-links between chains

Softens when heated

Thermosetting

Strong cross-link bond



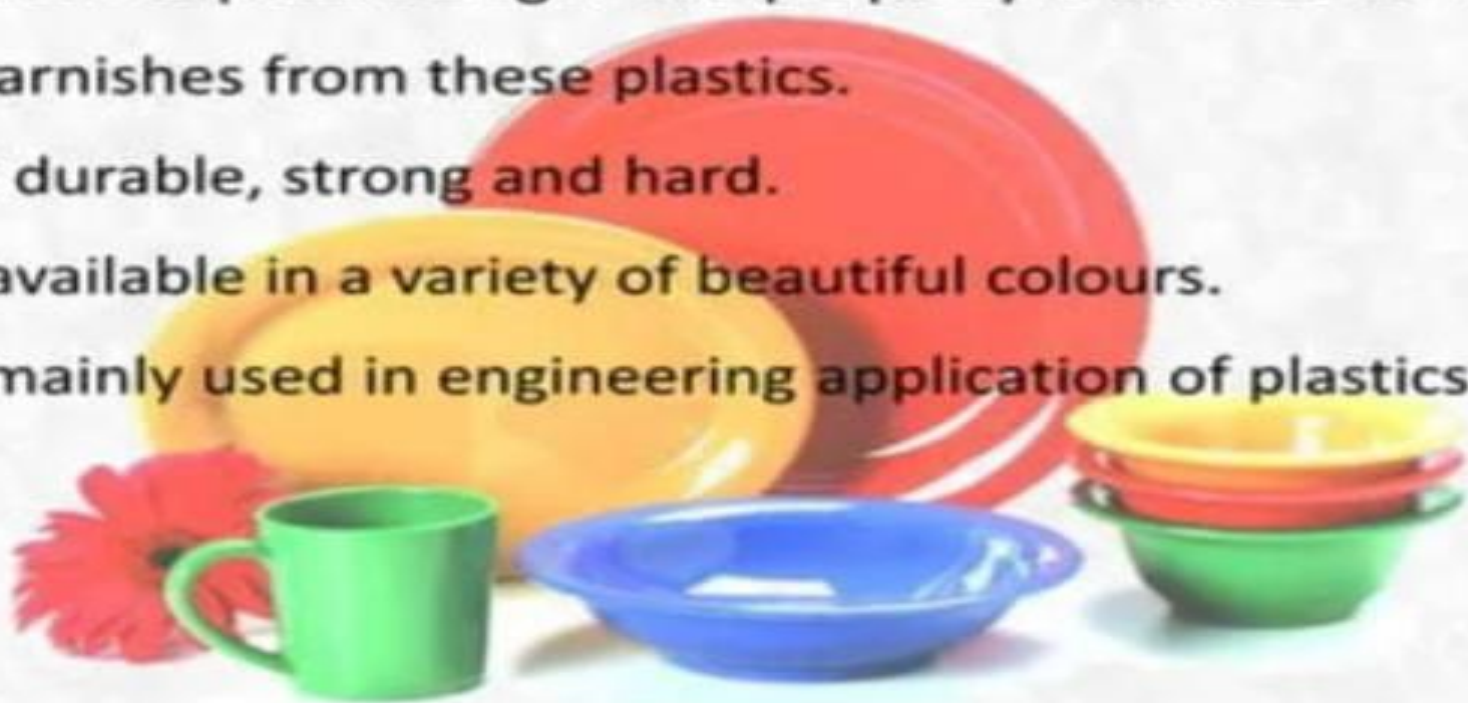
Strong covalent bonds
between polymer chains

Remains hard when heated

Thermo-setting plastics

PROPERTIES

- These are soluble in alcohol and certain organic solvents, when they are in thermo-plastic stage. This property is utilized for making paints and varnishes from these plastics.
- These are durable, strong and hard.
- They are available in a variety of beautiful colours.
- They are mainly used in engineering application of plastics.



Thermo-plastics



Thermo-setting plastics

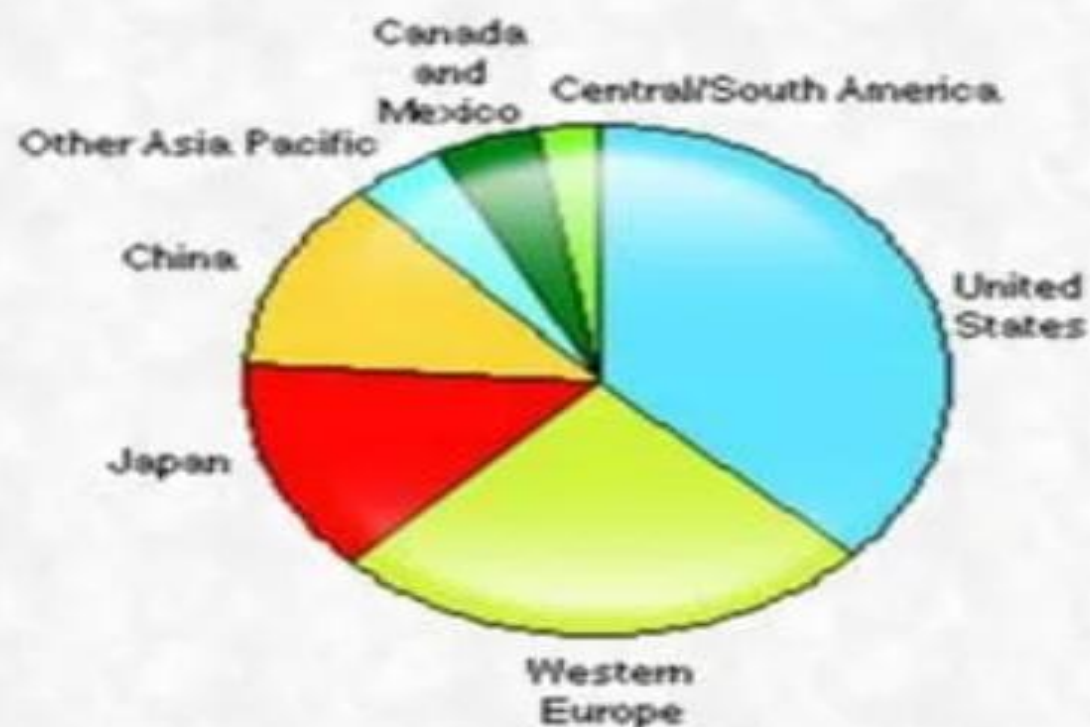
General Uses

- Electronic chips
- Fibre-reinforced composites
- Polymeric coatings
- Spectacle lenses
- Dental fillings



World consumption of plastic

World Consumption of Thermoplastic Polyolefin Elastomers - 2010





THANK YOU!