

VIDYA BHAWAN BALIKA VIDYAPEETH

STUDY MATERIAL SCIENCE

CLASS-VIII

Date : 20-05-2021

Teacher : Poonam Kumari

▸ Synthetic Fibre & plastics

Thermosetting plastics include bakelite and melamine, which can be moulded and shaped only once. Once these are set, they cannot be melted again and hence cannot be recycled. Thermosetting plastics are good electrical insulators and they resist fire and heat better than thermoplastics.

Bakelite is used for making articles such as electrical plugs and sockets, electrical switches and handles of utensils, while melamine is used for making unbreakable kitchenware and as a fire retardant coating on firemen's uniforms.

Properties of plastics

Plastics have become increasingly important in our everyday lives. They are light, durable and can be easily moulded into various shapes. Plastics are unparalleled as packaging material, which is evident from their widespread use in packing commodities such as milk, cooking oils, groceries and processed food items. Commodities stored in plastic packages remain fresh for long periods as they can be effectively sealed off from contact with air and contaminating agents.

Plastics are also increasingly being used as a substitute for metals in automotive and aircraft parts. They are preferred over metals because of their lightweight, durability and resistance to corrosion. Plastic is also becoming popular as furniture material and replacing wood and steel because it is lightweight and easier to maintain.

Plastics are non-reactive :

Metals get rusted or corroded when exposed to air and water. They also react with chemicals, but most plastics remain unaffected. That is why containers made of plastic are better than metal containers for storing a wide variety of materials including chemicals.

Plastics are strong, light and durable :

Plastic can be easily moulded into a variety of shapes to make lightweight and durable products, such as buckets and mugs, which need riveting or soldering if made of metal. Presently, most households use plastic kettles and mugs they do not rust or leak and are more convenient to use. Articles, such as briefcases, car bumpers and even doors made of plastic, are becoming popular.

Plastics are poor conductors :

Plastics are poor conductors of heat and electricity, which makes them ideal for use as a covering on electrical wires as well as for making handles for cookware such as frying pans and

pressure cookers. Cookware made of special plastic can be used in microwave ovens. The handles of screwdrivers and line testers are also made of plastic.