

C-8 SCIENCE WK-5

CHAPTER-3

SYNTHETIC FIBRES AND PLASTICS

PLASTICS

Plastics are synthetic materials that can be moulded into a permanent shape.

These highly useful materials were developed during the last century. Plastics are cheap, light and strong. They can be moulded into different shapes- a property known as plasticity. They are not generally attacked by chemicals.

They are divided into THERMOPLASTICS AND THERMOSETTING PLASTICS.

Thermoplastics retain their plasticity even after repeated heating and cooling. So they can be moulded over and over again. But Thermosetting plastics, once set after being melted, cannot be moulded again.

HAZARDS RELATED TO PLASTICS

- They are nonbiodegradable, i.e., they are not broken down into simpler, harmless substances in the environment. So, with the increasing use of plastics, the volume of nondegradable garbage is increasing every day.

- Use and throw plastic objects like carrybags and bottles block drains and sewers. Carrybags also harm animals if they swallow them while grazing.
- When burnt, they produce harmful gases.
- Most chemicals used for preparing the monomers which form plastics can cause cancer among the workers.

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#462898

Explain why some fibres are called synthetic.

Solution

Some fibres are called synthetic because they are not made from natural fibres. Instead, they are made by chemical processing of petrochemicals. The synthetic fibres are made up of very large units called polymers. Some of the synthetic fibres are - nylon, rayon, acrylic.

#462897

Mark the correct answer

Rayon is different from synthetic fibres because

- (a) It has a silk like appearance
- (b) It is obtained from wood pulp
- (c) Its fibres can also be woven like those of natural fibres

Solution

(b) It is obtained from wood pulp

Rayon is a manufactured regenerated cellulose fibre. It is made from purified cellulose, primarily from wood pulp, which is chemically converted into a soluble compound.

#462896

Fill in the blanks with appropriate words

- (a) Synthetic fibres are also called _____ or _____ fibres.
- (b) Synthetic fibres are synthesised from raw material called _____.
- (c) Like synthetic fibres, plastic is also a _____.

Solution

(a) Synthetic fibres are also called man-made or artificial fibres.

(b) Synthetic fibres are synthesised from raw material called petrochemicals.

(c) Like synthetic fibres, plastic is also a polymer.

#462895

Give examples which indicate that nylon fibres are very strong.

Solution

As nylon is a very strong fibre, it is used for making parachutes, rock climbing ropes, fishing rods, and boats. A nylon thread is actually stronger than steel wire.

#462894

Explain why plastic containers are favoured for storing food.

Solution

Plastic containers are favoured for storing food for the following reasons:

1. Plastic containers are light weight as they are easy to handle.
2. The price of plastic containers is very less as compared to other containers.
3. They have strong strength.
4. Plastic containers are durable.

#462871

Explain the difference between thermoplastic and thermosetting plastics.

Solution

Thermoplastics	Thermosetting plastics
Plastics which can be easily deformed and bend easily on heating are known as thermoplastics.	Plastics once moulded cannot be bent or deformed are known as thermosetting plastics.
They are used for making bags, containers.	They are used for making switches, handles of kettles.
Examples are PVC, Polystyrene	Examples are Bakelite, Melamine

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