

V. Answer in detail:

3. Name the three safer Resin codes of plastics and describe their features.

Ans:

Resin Code	Other Names	Common Items	About
	PEHD	Bottles (Shampoo, detergent, etc) toys, plastic bags and waste bins	Considered one of the safer plastics . It is light, very strong and widely recycled.
	PELD, LLDPE	Food Packaging, Plastic bags, Food storage containers and plastic coating on the inside of the paper cups.	Considered one of the safer plastics. It is very Flexible and soft but strong.
	PP, Polypropylene	Bottle Caps, Straws food containers, hard pencil cases and plastic chairs.	Considered one of the safer plastics. It feels waxy or greasy, It is light and hard but scratches easily.

VI. Higher order thinking skills: (HOTS):

2. When a carbon fuel burns in less aerated room, it is dangerous to stay there, why?

Ans: i) When a carbon fuel burns in less aerated room, the fuel may undergo incomplete combustion.

ii) It results in the formation of carbon monoxide

iii) When exposed to carbon monoxide (CO) it enters human body through breathing, affects the function of hemoglobin.

iv) Sometimes, it will lead to death

3. Explain how dioxins are formed? Which plastic type are they linked to and why are they harmful to humans?

Ans: Dioxin Formation:

i) Dioxin compounds are not created internationally but are formed inadvertently by a number of human and natural activities.

ii) These activities include combustion and incineration forest fibres, chlorine bleaching of pulp and paper, certain types of chemical manufacturing and processing, and other industrial processes.

iii) Cigarette smoke, some home heating systems and exhaust from vehicles using leaded and unleaded petrol as well as diesel fuels also produce small amounts of dioxins.

iv) Burning materials that may contain chlorine such as plastics, wood treated with penta chloromphenol (PCP) Pesticide - treated wastes, other chemicals such as polychlorinated biphenols (PCBS), and even bleached paper can produce dioxins.

Their link with plastic:

- i) Dioxins are linked with PVC (Polyvinyl chloride plastics) the most toxic to the human organisms.
- ii) The most dangerous emissions can be caused by burning PVC, as it releases dioxins.

Harmful effects of Dioxins to humans:

- i) Dioxins are the most toxic to the human organisms.
- ii) Dioxins can cause cancer, disrupt the endocrine system, Alteration in pituitary and thyroid gland functions, immune suppression, neuro behavioral effects.
- iii) They are carcinogenic and a hormone disruptor and persistent, and they accumulate in our body feet and thus mothers give it directly to their babies via the placenta.

4. Yugaa wants to buy a plastic water bottle. She goes to the shop and sees four different kinds of plastic bottles with resin codes 1,3,5 and 7. Which one should she buy?

Why?

Ans: Yugaa should buy a plastic water bottle with Resin code No.5, which is considered as one of the safer plastics. It is light and hard.

Reasons to avoid resin codes 1,3,7:

- i) Bottle with Resin code 1 is to be used only once. This plastic can release a chemical additive called antimony which is not good for health.
- ii) Bottle with Resin code 3 is most toxic plastic. It will have a smell of a new shoe. It should be avoided.
- iii) Bottle with Resin code 7 has the plastic types PC and ABS which are unsafe and toxic.

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