

Conversion of Waste Plastic Materials into Usable Resources

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Abstract

The paper discusses about how most of the usable plastic materials are been reused into an useful process. In the current scenario, the plastic usage are been in the higher demand. Though we are been used to the usage of plastic in the daily day today life activities. Since its also an family member to our society. The plastics or plastic materials are been used widely in commercial and industrial sectors. Most of the plastic are been disposed along the road sides and they do not decompose in land for several years. Since when the plastic gets into the ground surface it does not allow the other substances to move in. thus it causes several problems to the landfill and surroundings. When the plastic are been burnt it causes several pollution to the environment and health effects to the people. Only few plastic materials are been used or reused again for the regular usage. My study tells about how effectively the plastics or these materials are been used in the eco-friendly manner.

Keywords: Plastics, Decompose, Landfills, Environment, Eco friendly.

Introduction

It is really an difficult task how plastic came into existence in every ones day to day life. Without using a small plastic material in regular usage a person can not run his routine life because he is been addicted to it. The plastic is been from the older days in usage in less amount and in the present generation it is been used everywhere in higher needs. This can be stopped by various. For example, the dress which we wear, the writing pens, the chair which we sit, the plates which we eat, the chocolates which we consume regularly are been made up of plastic only. Plastics gives us an different styles of materials been used, that can be in various forms, shapes, colours and type of product its going to be performed. They use the higher technological process for the manufacturing process of the plastic materials. The term plastic came from the Greek terminology which means plasto that tells that heating the product and getting to the required shape that is needed. The plastic has the larger content of polythene chemicals been present. The name which is been called plastic is the oldest name and still it s been in the existence. Plastic can also been called as the Bakelite. Same as the timbers, stones, and metals plastics are also been classified into various types based on their usage in various fields.

- **Natural Plastics:** It Occurs Naturally From Resin Of Pine Tree
- **Semisynthetic Plastics:** Reaction Of Cellulose Fibre And Acetic Acid
- **Synthetic Plastics:** Petrochemical refineries Under Heat And Pressure
- **Thermosetting Plastics:** Heated And Moulded To Needed Shape
- **Thermo Plastics:** Heated And Softened In Regular Usage.

The Plastic Timelines

1. 1712: mould snuff box with thorn usage.
2. 1855: soccer ball with vulcanised rubber been introduced.
3. 1892: artificial silk called viscose been introduced to world.
4. 1905: laminated glass with cellulose.
5. 1930: transparent sticky tape been introduced.
6. 1938: first toothbrush with plastic been invented.
7. 1954: polypropylene been synthesised.
8. 1969: nylon flag on moon by Neil Armstrong.
9. 1990: first biodegradable plastic introduced.
10. 2007: christmas tree with plastic air fix plane.

Analysis

This shows the different materials and usage of plastics and various people those who have invented certain materials for the regular usage in different time periods using the needed materials. This shows the improvement of the nation's plastics needed in regular usage. At that time the people have not analysed about the disadvantages of hot plastics and how it will affect the future generation that is needed. Most of the inventories that are been made is needed for the human in different stages of life. The inventories that are been discussed above are not in regular usage of the present generation. Only few products are been in the current generation for the better need of the people. In today's context due to improvement of the population and industrial sectors, the need of plastic are been in the higher needs. We can try to adopt certain products that are been used in those generation that will not harm the entire society.

Plastic Production

The plastic production is the important need for the manufacturing industry of the plastic in current generation. The plastic that are been got in natural form such as the oil, coal, and natural gas with the remaining crude oil that's been needed the heavy production is from the fraction of the heavy particles and lighter particles. The heavy fraction are been used for the heating of the oils and lighter particles are in different form of naphtha. To make a plastic the basic form naphtha is been crushed into smaller compounds to form a larger one. These complex substance are been in the form of the smaller molecules in order to get it from butylene, propylene, ethylene. The compound that are been produced by the cracking process are been refined to get the base plastic materials. The polymers are the larger molecules to get into the smaller one. The smaller particles are been joined to form a single unit called as the plastic.

Processing

The process of the plastic is been done in the manufacturing process. During the manufacturing process the plastic moulds are been into various shapes based on the typology of the moulding it is been made. The moulding may be of extrusion moulding, intrusion moulding, bowl moulding, vacuum moulding, rotational moulding, and compression moulding. Based on the need of the plastic materials that is been required in the market, the shape is been taken to get a better one. In most of the moulding process heating of the polymers taken place and then cooled down and it is been finally to the required shape that is been preferred. The products that are been got are such as the window frames been used, display sheets, vacuum pumps etc., the products that are got is been used in the residential purpose and the industrial sectors.

Plastic and the Environment

The most important aspect to be considered for the plastic is that how plastic are been an challenge to the environment and to the people living with it. there are three possible environmental problems to be considered for the bad environment conditions that are been spoiled in current scenario. First ,the

plastics are been mostly made from the materials such as oils, natural gas or coal. When these substance are been made it should be limited to the natural resources and been conserved properly. Secondly, during the manufacturing process of the plastic are been harmful to the environment and the health conditions. Most of the manufacturing companies do not follow the rules and regulations for the better improvement of the society. Thirdly, the most important usage is that the old and unwanted usage of materials or plastics that are been thrown in the open land and open ground. When these are been thrown it causes an adverse effects to the natural environment and the fauna and flora. These plastic products do not get degraded into the soil and will be present for several years. in order to prevent all these things most of the companies have to consider the process of biodegradable materials and make the environment an better one. The properties such as the materials used in the present problems once used in their lifetime has finished. Plastics materials such as the pains cables, window frames do not get rooted into the soil and stay stable for several years. The next important aspect is that the corrosion f the motor vehicles and used oils are been deposited in the ground itself and been washed of. When these are been washed it moves away to the near by agricultural lands and it gets affected to the nearby land and plants this when during the plants consumption it affects the human also by the adverse health effects.

Problems Caused Due to Plastics

The most important problem considered during the plastic is that the burning of the plastic. When plastic is been burnt, it causes several health effects to the environment and to the surroundings. When these are been released into the air, it gets polluted and releases most of the poisonous gases from it and affects the human in different ways. Mostly the human respiratory system gets affected because of inhaling most of the toxic substance that are been released and leads to death.

Harmful Effects of Plastics

The most important harmful effects that are been found due to the plastics are that mostly it affects the

human beings only. Since it affects the endocrine system of the human body and reduces the blood circulation in the normal level. This causes cancer and birth defects to the younger generation. Skin allergy is also an important affect to the human beings. When most of the plastic are been burnt, it emits the poisonous substance and moves up to the clouds and when it forms as heavy rainfall, the chemicals that are been from the plastic are been mixed with the rainfall and drops into the land. When these are been fell on the ground it causes worst effects tot the plants also. It causes severe damage to the roots that are been present in the plants and doesn't allows the plants to grow further in the better condition.

Harmfull Effects of Plastics to the Soils

Yes, the plastics are mostly harmful to the subsoil in the environment. When one throws away all the unwanted plastic materials or plastic bags in the soil it does not get decomposed, and remains for several years in the same place. It does not allows the good water to pertain to the soil can better improvement of the soil condition. The thickness of the soil is also been reduced based on the decomposition of the plastics. During several years it forms several layers in the underground and does not allow the ground water table to be increased.

Effects of Plastic Pollution Collapses the Food Chain

The major pollution as the regular food chain is been collapsed for both animals and the human beings. The food products that we regularly use are been the adverse effects to the environment.

Ground Water Table is Polluted

Due to the dumping of the plastic on the waste land or land fill ti starts settling in the ground and does not allow the top waster or rainwater to enter into the ground. The chemical substances that are been present in the plastics are been submerged into the soil and causes effects tot eh ground water.

Air Pollution

The important aspect of the plastic is that the air pollution. The air pollution causes more adverse

effects to the surrounding environment and to human beings. The air which we inhale cause several serious issues to the human by health effects.

Water Pollution

The water is been polluted due to disposing of the waste plastic into the near by lakes or ponds. When these are been dumped the growth of the flora is reduced and been contaminated. The fishes that lives in the water bodies try to consume it and leads to death.

Land Pollution

The most important factor is that the pollution of the land and the landfill. The plastics that are been dumped on the ground do not get decomposed and settle in the same place for several years. It creates many layers of plastic in underground and does not allow the water to percolate it inside.

Its Poisonous

yes, the plastic pollution is more poisonous because of the above mentioned aspects . it causes cancer or ;leads to death due to several effects that affect the human body.

Solutions For Better Improvement

Shop Eco-Friendly

Eco friendly shopping is more advisable for people to live an better improvement in the society. When we start using jute bags, paper bags and cotton bags, if even they are been disposed it doest harm the environment in any way. It can be an better choice to improve the current generation needs.

Avoid Plastic Water Bottles

Most of the people buy water bottles in the shops during the travel for the long distance. After using it they just throw away and it also leads to land pollution. Copper bottles are much better to improve the life style and its good for health also. Even in the hotels copper bottles are more preferable that easily attracts the people also.

Awareness Programme

The awareness programmes are to be implemented in the city and almost in most of the village of the India. Most of the people are not well known to the plastic defects and its effects to the human beings. Educated and non educated people are mostly sailing in the same boat based on the plastic usage. So proper awareness programmes to be implemented by the government for better living.

Recycling Methods

Plastic are the materials that can be recycled and reused in different possible ways. The plastic bags are been crushed in various pieces and sent to the manufacturing industries and based on many inputs those can be used again such as the plastic thaar roads can be laid for most of the stability, waste bottles can be used for vertical garden plants and pen holders in the houses. Mostly it can be reused in the process of the gardening to improve the environment and make it eco-friendly.

Conclusion

To have a pleasant and an eco-friendly environment we, the human beings in our day to day regular life should think about the present generation and we have to predict the future generation if most of the plastics are been demolished at a less amount regularly. If a person knows about the harmful effects of it he slowly tries to reduce the plastics materials and recycling process helps in better improvement of the society.

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