

# PLASTICS



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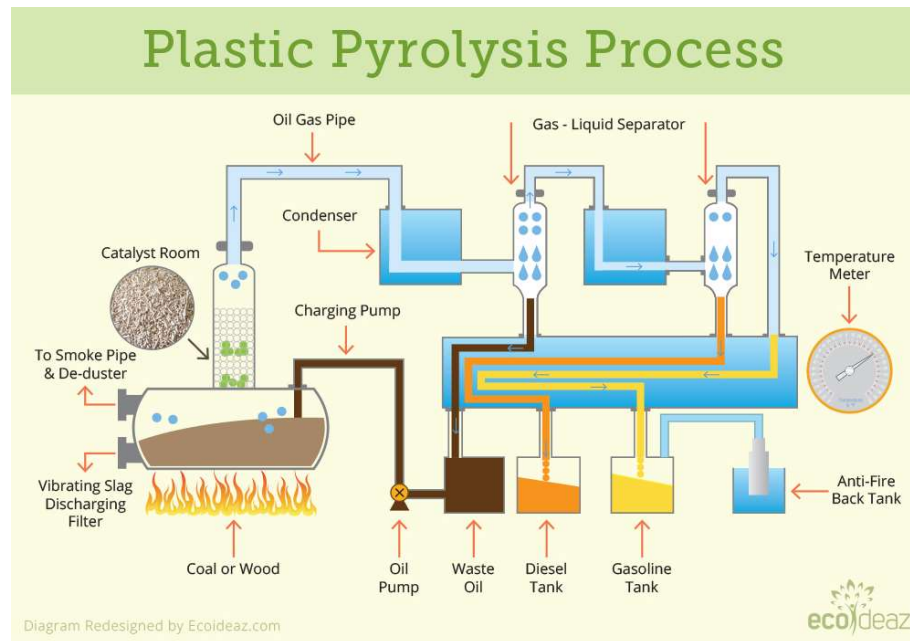
# WHAT IS A PLASTIC?

Plastic is any synthetic or semi-synthetic organic polymer. While plastics may be made from just about any organic polymer, most industrial plastic is made from petrochemicals.



# HOW CAN OBTAIN IT?

Plastics are derived from organic products. The materials used in the production of plastics are natural products such as cellulose, coal, natural gas, salt and, of course, crude oil.



# GENERAL PROPERTIES OF PLASTIC



Easy to work and shape



Cheaper



Low density



Waterproof



Good electrical insulator



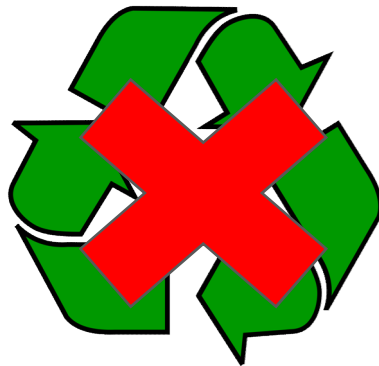
Acceptable acoustic insulation



Good thermal insulation



Resistant to corrosion



Not easy to recycable

## **TYPES OF PLASTICS AND ITS CHARACTERISTICS**

# **THERMOSET**

# Melamine

Resistant to high temperatures and chemicals; it is easy to clean.





# Bakelite

A hard and brittle, dark plastic that withstands



# **Polyester resins**

Rigid and brittle, they are usually strengthened with fibreglass.



# **THERMOPLASTICS**

# POLYETHYLENE (PE)

Common type, offers good chemical resistance. Non-toxic for food packaging.



# POLYSTYRENE (PS)

Lightweight transparent plastic. Used in packaging and for health insulation.



# PVC (Polyvinyl chloride)

Very resistant to abrasion and impact.



# Polypropylene (PP)

Easy to model and dye. Resistant to solvents and splintering.



# PET (Polyethylene terephthalate)

For food use, it's recyclable, transparent and easy to dye.





# TEFLON

Very resistant to chemicals and high temperatures. Non-stick properties.



# POLYCARBONATE (PC)

High resistance to impact and heat. Good optical transparency.



# NYLON

Weathering and fatigue resistance, shock absorber power and sliding properties.



# POLYLACTIC ACID (PLA)

High strength, rigidity, has a stronger layer bond.



# ACRYLONITRILE STYRENE ACRYLATE (ASA)

Good resistance to inclement weather, high heat resistance, high resistance to impacts, good UV resistance and high flow.



# **ELASTOMERS**

# RUBBER

Can be natural or synthetic. Because it's elasticity, it's used to make tyres, hoses...



# Neoprene

Flexible, insulated and waterproof, do it's ideal for immersion suits.





# Environmental impact

The plastic takes hundreds of years to decompose in the environment.

Leaving plastics in the environment is an error with catastrophic consequences on a global level.

Some of the toxic additives in plastic, such as the potent endocrine disruptor bisphenol A, contaminate the blood of more than 90% of the population, including newborn infants.

Plastics pollute all the seas and coasts of the planet and are present in practically all ecosystems. These fragments are ingested by animals, even by microscopic beings such as plankton, contaminating the food chain on which we depend.



# HOW CAN WE REDUCE PLASTICS IN THE IES?

- Change bottles of plastics into glass of bottles.
- When a bottle of plastic that contains substances like soap are finished, instead of buying other bottles with soap, we can buy a big container with soap and then distribute it among the other smaller bottles.
- With the cover of the books instead of throwing them to the bin all the years, save the for the next.



# HOW CAN WE REUSE THE PLASTICS?

For example, with the bottles of plastic we could cut them and use them as flower pots to make the classes look more beautiful.



Also, we could use the bottom of the bottles to use them as pencil boxes, and hang them in the plastic's class.



As well as with the bottles we can do watering, by putting a hose on the part of the bottle cap and making holes around the bottle.



# How can we manage the recycle in the IES ANTARES?

The high school could put yellow bins which are for plastics and in that way, the plastics will be easily collected to reuse them.



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**THE END**