

PLASTICS ACTIVITIES

Choose the correct answer

1. Plastics are:
 - a) Elastomers which form atoms.
 - b) The result of the polymerization of monomers.
 - c) Light and resistant to high temperatures.
 - d) Thermoplastics which melt at high temperatures.

2. Elastomers
 - a) Is a polymer with the property of elasticity
 - b) Is usually made of carbon, *Nitrogen* and elastine.
 - c) PET belongs to elastomers

3. To make plastic, one can use:
 - a) Monomers, polyvinyl alcohol and pigments.
 - b) Monomers, ethanol alcohol and solvents.
 - c) By-products of oil, natural gas, or mainly carbon.
 - d) None of the above, as they come directly from nature.

4. Plastics are:
 - a) Good heat, electricity and sound conductors.
 - b) More resistant than metals, which is why they are used.
 - c) Contaminants, which is why they should not be burned.
 - d) Good heat, electricity and sound insulators.

5. Thermosetting plastics are those that:
 - a) Can be processed indefinitely.
 - b) If stretched, don't return to their original state.
 - c) Can only be processed once.
 - d) Hold heat well and don't melt.

6. Thermoplastics are those that:
 - a) Don't hold heat well and melt.
 - b) Can be processed indefinitely.
 - b) If stretched, don't return to their original state.
 - c) Can only be processed once.

7. Plastics that are recycled to make other plastics are:
 - a) Thermoplastics.
 - b) Thermosetting plastics.
 - c) Elastomers.
 - d) All of the above, but they are processed differently.

8. Thermoplastics:

- a) Can be re-processed various times like Thermosetting plastics.
- b) Are formed by macromolecules in a linear or complex way.
- c) Are, for example, polyethylene, polypropylene and neoprene.

9. Nylon:

- a) Is a synthetic fiber that is stronger than any natural fiber.
- b) Is used to make jeans, shirts and socks.
- c) Is very stretchy

10. Cyanoacrylate glue/adhesive:

- a) Is the only adhesive that can glue expanded polystyrene.
- b) If used in excess, it will not stick.
- c) Is used as a non-stick product in pans because it contains flour.

11. Polycarbonate:

- a) It is a thermosetting plastic which is more resistant to breaking than glass.
- b) Is a plastic with excellent chemical and optical properties. Therefore, it is used to make CDs and photographic movies.
- c) It is used as a non-stick product in pants because its contains flour.



12. The figure on the left is made from a very common plastic. What type of plastic are we talking about?

13 -Plastics are often called good thermal conductors because they are frequently used to store materials at very high temperatures.

- a) That is why they are called thermal conductors
- b) They are conductors until they change state
- c) They are electrical conductors, but not thermal conductors
- d) They are not thermal conductors, but they are electric conductors

14. Thermoplastics have a simple or complex macromolecular structure, which causes this type of plastic to be:

- a) good at holding heat
- b) in general, good at adjusting to changes in temperature.
- c) change shape due to heat.
- d) once it solidifies, it cannot change shape

15. In the group of thermoplastics, one stands out as holding high temperatures. This plastic is called:

- a) PET
- b) PVC
- c) Polyvinyl
- d) Teflon

16 A plastic used for decoration, sometime have the function of glass and belonging to the thermoplastic family is called ..

- a. PVC
- b. methacrylate
- c. Polypropylene
- d. Polycarbonate

17. PVC is often used for windows and their insulation, with regard to thermal and acoustic insulation. It has a bad reputation because:

- a. The color changes with time
- b. It doesn't hold well against direct sun light.
- c. It's fragile.
- d. Environmental problems due to additives like dust, Phthalate,

18 . Thermoplastics are made by a so-called "curing" process, which...

- a. Uses pressure and heat during the formation process.
- b. Uses temperature to eliminate toxins.
- c. Increases pressure while creating the shape.
- d. In its creation process, additives are used which alter the chemical make-up

19. When creating plastics, besides monomers, what else is added?

- a. Specific additives to achieve certain properties. Antioxidants to protect chemical changes caused by oxygen or the ozone layer, stabilizers to protect from elements , lubricants to reduce friction, etc.
- b. Dyes are added to give color and thickeners so there is not excess liquid.
- c. Oxygen is added to the mix so it combines with the monomers. A pressure tube is used.
- d. Solvents, catalysts and reaction retardants.

20 . Elastomers are characterized because:

- a. They consist of short chains, allowing for an ideal strength between structures and granting elasticity to this compound.
- b. Elasticine are added, giving them their name.
- c. They don't contain additives, meaning they are a very elastic substance.
- d. Their molecules form long macromolecules.
- e. Like all plastics, they hold heat well.

21. Swimsuits are made from a material called neoprene. Which group of plastics does neoprene belong to?

- a. Natural rubber
- b. Thermoplastics
- c. Thermosetting
- d. Elastomers

22. Plastic water bottles are made from which of the following processes?

- a. Extrusion
- b. Injection molding
- c. Blow molding
- d. Compression molding

23. In injection molding:

- a. Liquid is passed through a funnel and pushed through an endless screw.
- b. Liquid is injected by a nozzle
- c. A lot of pressure is used for the right injection
- d. It is the method used to create watering hoses.
- e. Heating bands are used.

24. The contact line carries solvents with it. One should have the windows open when they are used. What happens if you use this type of adhesive in materials such as Expanded polystyrene

- a. Nothing happens
- b. It doesn't stick
- c. The plastic comes undone
- d. A perfect match is made between the two parts

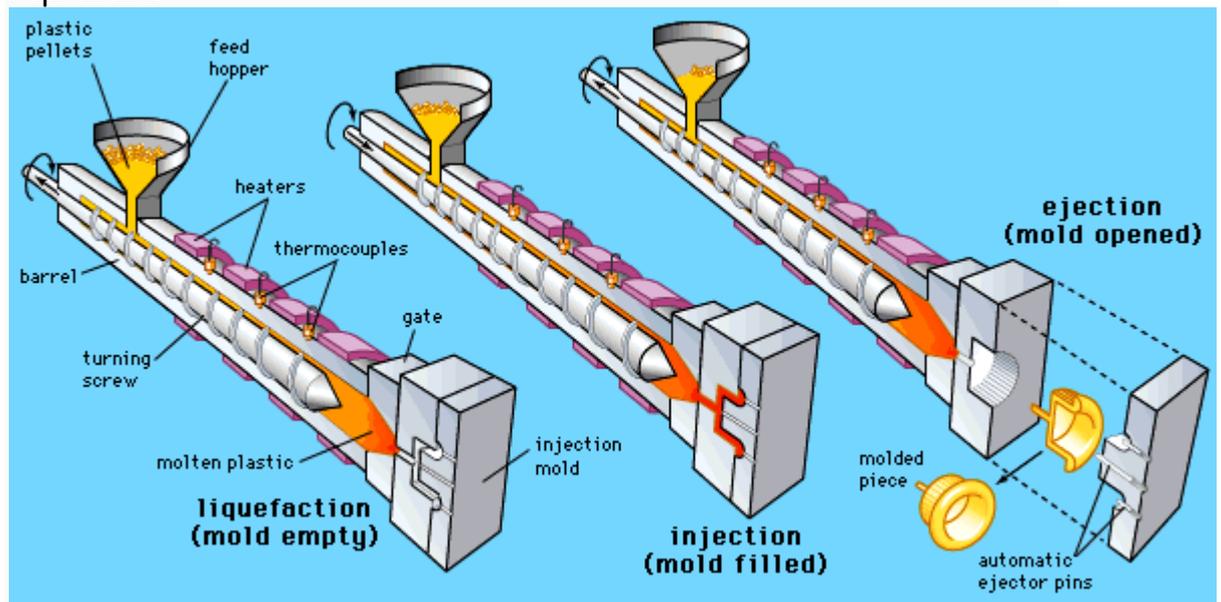
25. What type of versatile adhesive requires a mix of two components?

- a. Compound chains
- b. PVC adhesives
- c. Epoxy adhesives
- d. Bland adhesives

26. One of the adhesives used to glue plastics has an active component named Cyanoacrylate. The main security measure is:

- a. To keep away from children
- b. Avoid contact with eyes.
- c. Avoid the gasses from coming in contact with your eyes.
- d. Once open, cover the bottle well.

27. The image below represents:



- a. Compression molding.
- b. Blow molding.
- c. Extrusion
- d. Injection molding

Dictionary:

Phthalate: Substances added to plastics to increase their flexibility, transparency, durability, and longevity

Nozzle : Device designed to control the direction or characteristics of a fluid flow

funnel: Pipe with a wide, often conical mouth and a narrow stem.