

Materials Safety Exercises

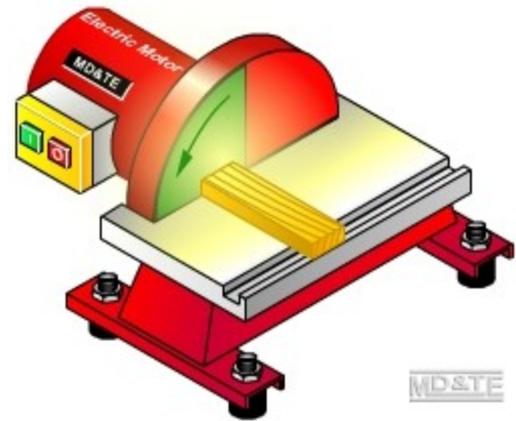
- 1 Explain why the fine airborne dust produced when Medium Density Fibreboard (MDF) or timber is abraded ("sanded") is hazardous to your health.
- 2 Explain how the risk to people's health from fine airborne wood dust may be reduced or eliminated.
- 3 Explain why fine particles of wood dust should be cleaned up thoroughly.
- 4 Phthalates are mixed with polymers because they make plastics soft and pliable. They are used in many applications including food containers, PVC food wrap, children's toys, packaging, cosmetics and wood finishes. Phthalates leach easily from polymers, especially when in contact with fatty foods like cheese and meat or acidic foods like fruit juices and vinegar etc., because they are not chemically bound in, they are just mixed in. Some phthalates are believed to be hormone disruptors and carcinogens, i.e. they cause cancer.

Explain why soft, pliable children's toys may be a hazard to their health.

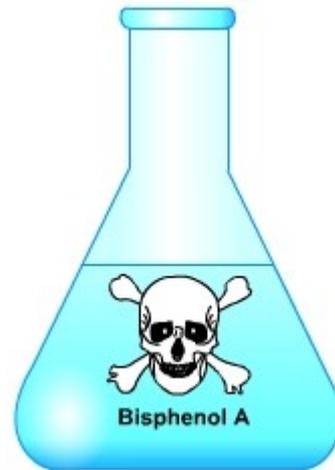
- 5 Bisphenol A (BPA) is a chemical used in the production of polycarbonate (PC) and epoxy resins and is an additive used in other polymers, e.g. polyvinyl chloride (PVC). It has been found to leach from plastics, especially when exposed to high temperatures. Bisphenol A has been linked to birth defects, miscarriage, cancers, early onset of puberty and brain and mental problems.

Explain why products containing Bisphenol A (BPA) such as polycarbonate baby bottles and food cans lined with epoxy resin are hazardous to people's health and safety.

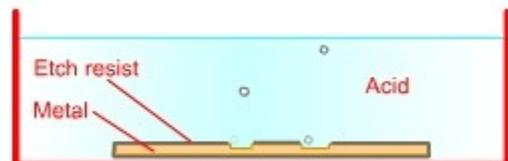
- 6 Explain why fine particles of plastics dust should be cleaned up thoroughly.
- 7 Describe the risks involved with using acrylic cements such as Tensol 12 and Tensol 70.
- 8 Describe the risks involved with over heating polystyrene, e.g. when cutting polystyrene sheets with a hot wire cutter.
- 9 Explain why the materials used in metal etching and pickling processes may be hazardous to people's health and safety.
- 10 Describe the hazards caused by non water based varnishes and wood polishes.



Abrading timber and MDF



Chemicals leaching from polymers



Etching metals