



Computer Safety

OSHA



- The Occupational Safety and Health Administration is the main federal agency charged with the enforcement of safety and health legislation.
- OSHA requirements for a safe work environment:
 - Provide properly maintained tools and equipment.
 - Keep records of accident reports.
 - Display an OSHA poster in a prominent location.

Safety Rules

1. Familiarize yourself with your lab and the people that share it.
2. Familiarize yourself with the exits and the routes to them.
3. Stay alert and on the lookout for any condition that might pose a health and/or safety threat.
4. Notify the administrator immediately when you find a safety hazard or concern.

Safety Rules

5. Always turn off the computer before moving it. This is to protect the hard drive, which is always spinning when the computer is turned on.
6. Do not remove or install components while the computer is on. Make sure the power is off and the power plug has been removed before working inside the computer.

Safety Rules

7. Do not allow food or drinks in the work area.
8. Remove all jewelry and watches.
9. Keep the work area clean and orderly. When finished with a tool or component put it back into its proper place.
10. Keep computer disks away from magnetic fields, heat, and cold.
11. Do not touch any computer components with a magnetic screwdriver.

Safety Rules

12. Do not use a pencil or metal tipped instrument to change DIP switches, jumpers, or touch components. The graphite in the pencil is conductive and could easily cause damage.
13. Cover sharp edges with tape when working inside the computer case.

Safety Rules

14. Never open or work on a monitor or power supply. They may store up to 25,000 volts, so users should NEVER opening one. (AMPS KILL)
15. Never look into a laser beam found in computer related equipment.
16. Check all plugs and cords for wear damage prior to use.

Fire Extinguisher Ratings

- **A** – Ordinary materials (burning paper, lumber, cardboard, plastics)
- **B** – Flammable and combustible liquids (gasoline, kerosene, solvents)
- **C** – Electrical equipment such as appliances, switches, panel boxes, and power tools
- **D** – Combustible metals such as magnesium, titanium, potassium, and sodium
- Most general use fire extinguishers are rated “ABC”.



Safety Rules

17. Make sure that a fire extinguisher and first aid kit is available and you know where they are and how to use them.
18. Read safety labels on all equipment in the lab, including the fire extinguisher.

A **material safety data sheet** (MSDS) is a form containing data regarding the properties of a particular substance. It is intended to provide workers and emergency personnel with procedures and emergency phone numbers for handling or working with that substance in a safe manner. It includes information such as physical data, hazard rating, toxicity, health effects, first aid, storage, disposal, protective equipment, and spill handling procedures.

What is ESD?

- Electro-Static Discharge
- Our bodies constantly generate and release static electricity.
- Almost every time we touch something, we discharge some amount of static electricity.
- The human body can feel an electrostatic discharge of 3000+ volts.
 - Less than 100 volts can damage or destroy the delicate circuitry found in computers.
- ESD buildup is greatly reduced in a humid environment.
 - Maintain levels between 40% and 60%

Safety Rules

19. Always use a grounding wrist strap. Ground yourself often to prevent static charges from building up. Touch or clip to bare metal on the chassis or power supply.



20. Allow 15 seconds to pass before touching any sensitive electronic components with bare hands.

21. Work on a tile or concrete floor, if possible, as carpets can build up static charges.

Safety Rules

22. Do not allow anyone who is not properly grounded to touch or hand off computer components. This is true even when working with a lab partner. When passing components, always touch hands first to neutralize any charges.
23. Hold cards by the edges. Avoid touching chips or the edge connectors on the expansion cards.

Safety Rules

24. Use anti-static bags to store and move computer components. Do not put more than one component in each bag, as stacking them can cause some of the components to become loose or broken.

Safety Rules

25. When laying components down put them on top of an anti-static bag or mat. Never place a circuit board of any kind onto a conductive surface, especially a metal foil. The lithium and nickel cadmium (NiCad) batteries used on boards may short out.