

## Discussion and Notes

*If using the notes for training, keep a copy of these safety training notes and a signed attendance sheet to verify regular safety training. Regulatory inspectors will usually request proof of safety training.*

## Don't Be Shocked — Electrical Safety

Accidents involving electricity can cause shock, burns, and even death. Reviewing and following a few basic rules will help you improve electrical safety when working with hot plates, electrophoresis equipment, power supplies, Van de Graaff generators, etc.

### Electrical Safety Guidelines

#### Outlets

1. Do not use cracked, broken or scorched outlets. Report the outlets to your maintenance department immediately.
2. Use ground fault interrupters (GFIs) in the lab to protect you and your students from electrical shock. Have your maintenance department replace older electrical outlets as soon as possible with GFI-type outlets.
3. Test electrical outlets with a circuit tester once a year.

#### Electrical Cords

4. Laboratory chemicals can damage electrical cords. Inspect power cords on laboratory apparatus before use. Do not use equipment with frayed wires or defective plugs.
5. All electrical apparatus should be grounded through a three-prong plug.
6. Make sure power cords do not dangle and are secure.
7. When removing the power cord plug from an outlet, make sure your hands are dry and always pull the cord out by grasping the plug.

#### General Rules

8. Do not use electrical equipment with exposed or bare wires.
9. Keep your hands and the lab area dry when working with electrical apparatus. Any electrical equipment near a water source must be grounded and plugged into a GFI outlet.
10. Follow all safety precautions when demonstrating a Van de Graaff generator.
11. Do not use extension cords with laboratory equipment.
12. Know the location of the electrical shut-off switch or circuit breaker and how to turn off the power.
13. Sparks from electrical apparatus can ignite flammable liquid vapor. Work with volatile, flammable liquids in a hood or well-ventilated lab to prevent the buildup of flammable vapors.
14. If water or a chemical is spilled on electrical equipment, immediately turn off power to the apparatus and shut off the circuit breaker before unplugging the unit.
15. When using an electrical apparatus in a fume hood, make sure the power cord is plugged into an outlet outside of the fume hood.
16. Turn off an electrical apparatus before plugging it into the outlet and also before unplugging.
17. Do not overload electrical circuits. Consult the label or instruction manual for the power requirements of electrical apparatus before use and compare it to the power available on the circuit.

### **Safety Training Prevents Accidents**

Schools and other institutions must provide safety training for faculty and staff working in academic laboratories. Whether it's fire safety, electrical safety, biological lab safety or chemical safety, the online Flinn Laboratory Safety Course fulfills this requirement. Check out this free program and get started today! <http://labsafety.flinnsci.com/Home.aspx>

### **Flinn Scientific Canada Values Your Support**

Please continue to support our efforts to improve safety in science labs by ordering all of your science supplies from Flinn Scientific Canada.

