

OPF - CLEAN-UP PROCEDURES FOR BROKEN FLUORESCENT BULBS AND LAMPS

Fluorescent bulbs and lamps, including compact fluorescent lights (CFLs), contain a very small amount of mercury sealed within the glass tubing. The newer “green cap” fluorescent bulbs contain an average of 5 milligrams of mercury, about the amount that would cover the tip of a ballpoint pen. By comparison, the older “black cap” fluorescent bulbs contain about 500 milligrams of mercury. No mercury is released when the bulbs are intact or in use, so proper handling and disposal will eliminate any mercury risk from fluorescent bulbs.

If the lamp is broken, some of the mercury will still adhere to the lamp’s glass fragments, especially if the lamp is still cool. The rest of the mercury is released into the air, where it will dissipate fairly quickly.

If properly cleaned up, broken bulbs should not pose a serious health risk. By following the directions below, you can safely clean up a broken fluorescent bulb or CFL. It is not necessary to hire a professional for the cleanup.

The following procedures apply to the clean-up of both the “green cap” and the “black cap” fluorescent bulbs. The green and black caps refer to the color of the metal ends used/found at each end of the bulb. While clean-up procedures are the same, disposal of the two types will differ (as outlined at the end of this section).

WHAT TO DO IF A BULB BREAKS:

Before Clean-up: Air out the Room

1. Have people leave the room, and don’t let anyone walk through the breakage area on their way out.
2. Ventilate the room by closing all interior doors and vents, opening windows and any exterior doors in the room and leaving the room (restrict access) for 10 - 15 minutes.
3. Keep people away from the area until the cleanup is complete.

Clean-up steps for a hard surface:

4. **DO NOT USE A VACUUM CLEANER OR BROOM AND DUSTPAN TO CLEAN UP THE AREA.** Instead, do the following:
 - a. Put on thick disposable gloves to protect your hands from sharp glass and the mercury powder.
 - b. Carefully clean up the glass fragments and residue with a stiff paper (such as 2 playing cards or 2 index cards) or cardboard.

- c. Pick up any remaining small pieces of glass and residue using tweezers (if available) and pat down the area with sticky tape (such as masking or duct tape) to pick up fine glass particles and dust.
 - d. Finally, wipe the area clean with a damp paper towel, cloth or disposable wet wipe.
5. Place all cleanup materials (cardboard, gloves, tape, broken glass, powder, wet towels, etc.) in a sturdy glass container with a tight fitting metal lid (such as a jar), or a sturdy plastic bag that is tightly secured with tape (such as duct tape). The plastic bag with the broken glass, etc. should then be placed into a sturdy cardboard box as would be necessary for the safe transport of the bag and its contents.
 6. Label the container/bag/box as "Hazardous Waste – Broken Fluorescent Lamp".
 7. Store the container in an area inaccessible to occupants (preferably in a designated "Hazardous Waste Accumulation Area" or somewhere secure outside of the building) until you are able to dispose of it at through the EHSO as a hazardous waste.
 8. As soon as you are done, thoroughly wash your hands and face with soap and water.
 9. Leave windows in the affected room open as long as practical (weather permitting)(1–2 hours is preferred).

For clean-up of carpet: Complete steps 1 through 9 above, then:

10. If the rug is removable, take it outside and air it out as long as practical.
11. After the cleanup, the first time you vacuum the area where the CFL was broken, shut the door to the room or close off the area from as much of the rest of the building as possible and ventilate the room when vacuuming. Remove the vacuum bag when done cleaning the area, wipe vacuum with wet wipe and put the bag and/or vacuum debris, including cleaning materials, into a plastic bag and double bag and store the bag in an area inaccessible to occupants as in #7 above.
12. After vacuuming, keep windows open, door closed and occupants out of room for 1-2 hours.
13. Consider removal of carpeting where the breakage occurred as a precaution if there are infants, small children and/or pregnant women who will be using the room.

Clean-up Steps for Clothing and Other Soft Materials

14. If clothing comes in direct contact with broken glass or mercury-containing powder from inside the bulb that may stick to the fabric, clothing should be thrown away. Do

not wash such clothing because mercury fragments in the clothing may contaminate the machine and/or pollute sewage.

15. Clothing that does not come into direct contact with broken glass or mercury-containing powder may be laundered in the normal manner.
16. If shoes come into direct contact with broken glass or mercury-containing powder from the bulb, wipe them off with damp paper towels or disposable wet wipes. Place the towels or wipes in a glass jar or plastic bag for hazardous waste disposal.

Disposal of Waste after Completion of Clean-up

Upon completion of the clean-up, determine if the fluorescent tube has a green end cap or a black end cap.

If the end cap is “green”, the broken glass and clean-up waste can be disposed of as a non-hazardous waste. The waste will still need to be properly packaged to prevent a broken glass hazard.

If the end caps are “black”, the waste cannot be placed in the regular trash. In order to dispose of the waste properly, submit a “Hazardous Waste Turn-in Form” to the EHSO (Attn: Tim O’Callaghan) via fax (6-3205), hand delivery or campus mail (to the EHSO at 2040 East West Road) so that the waste can be removed from your location.