Cleaning Up a Broken CFL

Recommendations for When a CFL or Other Mercury-Containing Bulb Breaks

On this page:

- Cleanup instructions:
  - Quick cleanup instructions
  - Detailed cleanup instructions

Also on this page:

- Which bulbs contain mercury?
- Why is it important to clean up a broken CFL properly?
- Actions you can take to prevent broken CFLs
- What if I can't follow all the recommended steps? or I cleaned up a CFL but didn't do it properly?
- Information from other sources relating to the accidental breakage of CFLs

Related Information

- Main CFL page
- Find out how to recycle and dispose of a CFL after it burns out
- Download and print a color brochure on how to safely clean up and recycle compact fluorescent bulbs | en español

Quick Cleanup Instructions

Download and print instructions
Before Cleanup

- Have people and pets leave the room.
- Air out the room for 5-10 minutes by opening a window or door to the outdoor environment.
- Shut off the central forced air heating/air-conditioning system, if you have one.
- Collect materials needed to clean up broken bulb:
  - stiff paper or cardboard;
  - sticky tape;
  - damp paper towels or disposable wet wipes (for hard surfaces); and
  - a glass jar with a metal lid or a sealable plastic bag.

During Cleanup

- **DO NOT VACUUM.** Vacuuming is not recommended unless broken glass remains after all other cleanup steps have been taken. Vacuuming could spread mercury-containing powder or mercury vapor.
- Be thorough in collecting broken glass and visible powder. Scoop up glass fragments and powder using stiff paper or cardboard. Use sticky tape, such as duct tape, to pick up any remaining small glass fragments and powder. Place the used tape in the glass jar or plastic bag. See the detailed cleanup instructions for more information, and for differences in cleaning up hard surfaces versus carpeting or rugs.
- Place cleanup materials in a sealable container.

After Cleanup

- Promptly place all bulb debris and cleanup materials, including vacuum cleaner bags, outdoors in a trash container or protected area until materials can be disposed of. Avoid leaving any bulb fragments or cleanup materials indoors.
- Next, check with your local government about disposal requirements in your area, because some localities require fluorescent bulbs (broken or unbroken) be taken to a local recycling center. If there is no such requirement in your area, you can dispose of the materials with your household trash.
- If practical, continue to air out the room where the bulb was broken and leave the heating/air conditioning system shut off for several hours.

If you have further questions, please call your local poison control center at 1-800-222-1222.

Detailed Cleanup Instructions

Download and print instructions

Recommended steps:

- **Before cleanup**
- Cleanup steps for:
  - Hard surfaces
Future cleaning of carpeting or rugs: air out the room during and after vacuuming

Before Cleanup

1. Have people and pets leave the room, and avoid the breakage area on the way out.

2. Open a window or door to the outdoors and leave the room for 5-10 minutes.

3. Shut off the central forced-air heating/air conditioning (HVAC) system, if you have one.

4. Collect materials you will need to clean up the broken bulb:
   - Stiff paper or cardboard
   - Sticky tape (e.g., duct tape)
   - Damp paper towels or disposable wet wipes (for hard surfaces)
   - Glass jar with a metal lid (such as a canning jar) or a sealable plastic bag(s)

Cleanup Steps for Hard Surfaces

1. Carefully scoop up glass fragments and powder using stiff paper or cardboard and place debris and paper/cardboard in a glass jar with a metal lid. If a glass jar is not available, use a sealable plastic bag. (NOTE: Since a plastic bag will not prevent the mercury vapor from escaping, remove the plastic bag(s) from the home after cleanup.)

2. Use sticky tape, such as duct tape, to pick up any remaining small glass fragments and powder. Place the used tape in the glass jar or plastic bag.

3. Wipe the area clean with damp paper towels or disposable wet wipes. Place the towels in the glass jar or plastic bag.

4. Vacuuming of hard surfaces during cleanup is not recommended unless broken glass remains after all other cleanup steps have been taken. [NOTE: It is possible that vacuuming could spread mercury-containing powder or mercury vapor, although available information on this problem is limited.] If vacuuming is needed to ensure removal of all broken glass, keep the following tips in mind:
   - Keep a window or door to the outdoors open;
   - Vacuum the area where the bulb was broken using the vacuum hose, if available; and
   - Remove the vacuum bag (or empty and wipe the canister) and seal the bag/vacuum debris, and any materials used to clean the vacuum, in a plastic bag.

5. Promptly place all bulb debris and cleanup materials, including vacuum cleaner bags, outdoors in a trash container or protected area until materials can be disposed of. Avoid leaving any bulb fragments or cleanup materials indoors.
6. Next, check with your local government about disposal requirements in your area, because some localities require fluorescent bulbs (broken or unbroken) be taken to a local recycling center. If there is no such requirement in your area, you can dispose of the materials with your household trash.

7. Wash your hands with soap and water after disposing of the jars or plastic bags containing bulb debris and cleanup materials.

8. Continue to air out the room where the bulb was broken and leave the HVAC system shut off, as practical, for several hours.

If you have further questions, please call your local poison control center at 1-800-222-1222.

Cleanup Steps for Carpeting or Rugs

- Carefully scoop up glass fragments and powder using stiff paper or cardboard and place debris and paper/cardboard in a glass jar with a metal lid. If a glass jar is not available, use a sealable plastic bag. (NOTE: Since a plastic bag will not prevent the mercury vapor from escaping, remove the plastic bag(s) from the home after cleanup.)

- Use sticky tape, such as duct tape, to pick up any remaining small glass fragments and powder. Place the used tape in the glass jar or plastic bag.

- Vacuuming of carpeting or rugs during cleanup is not recommended unless broken glass remains after all other cleanup steps have been taken. [NOTE: It is possible that vacuuming could spread mercury-containing powder or mercury vapor, although available information on this problem is limited.] If vacuuming is needed to ensure removal of all broken glass, keep the following tips in mind:
  - Keep a window or door to the outdoors open;
  - Vacuum the area where the bulb was broken using the vacuum hose, if available, and
  - Remove the vacuum bag (or empty and wipe the canister) and seal the bag/vacuum debris, and any materials used to clean the vacuum, in a plastic bag.

- Promptly place all bulb debris and cleanup materials, including vacuum cleaner bags, outdoors in a trash container or protected area until materials can be disposed of. Avoid leaving any bulb fragments or cleanup materials indoors.

- Next, check with your local government about disposal requirements in your area, because some localities require fluorescent bulbs (broken or unbroken) be taken to a local recycling center. If there is no such requirement in your area, you can dispose of the materials with your household trash.

- Wash your hands with soap and water after disposing of the jars or plastic bags containing bulb debris and cleanup materials.

- Continue to air out the room where the bulb was broken and leave the HVAC system shut off, as practical, for several hours.
If you have further questions, please call your local poison control center at 1-800-222-1222.

Future Cleaning of Carpeting or Rugs: Air Out the Room During and After Vacuuming

1. The next several times you vacuum the rug or carpet, shut off the HVAC system if you have one, close the doors to other rooms, and open a window or door to the outside before vacuuming. Change the vacuum bag after each use in this area.

2. After vacuuming is completed, keep the HVAC system shut off and the window or door to the outside open, as practical, for several hours.

If you have further questions, please call your local poison control center at 1-800-222-1222.

Which Bulbs Contain Mercury?

You should follow the recommendations on this page if you've broken either a CFL or another type of mercury-containing light bulb, such as:

- **Fluorescent bulbs:**
  - Linear, U-tube and circline fluorescent tubes
  - Bug zappers
  - Tanning bulbs
  - Black lights
  - Germicidal bulbs
  - High output bulbs, and
  - Cold-cathode fluorescent bulbs.

- **High intensity discharge bulbs:**
  - Metal halide
  - Ceramic metal halide
  - High pressure sodium, and mercury vapor.

- **Mercury short-arc bulbs; and**

- **Neon bulbs.**

Why is It Important to Clean Up a Broken CFL Properly?

CFLs and the other light bulbs listed above contain a small amount of mercury sealed within the glass tubing. When a bulb breaks in your home, some of this mercury may be released as mercury vapor. To minimize exposure to mercury vapor, EPA recommends that residents follow the cleanup and disposal steps described on this page.

Learn more about the connections between CFLs and mercury.

Actions You Can Take to Prevent Broken CFLs
- You can switch off and allow a working CFL bulb to cool before handling.

- You can handle CFL bulbs carefully to avoid breakage.
  - If possible, screw/unscrew the CFL by holding the plastic or ceramic base, not the glass tubing.
  - Gently screw in the CFL until snug. Do not over-tighten.
  - Never forcefully twist the glass tubing.

- You can choose not to install CFLs in table lamps and floor lamps that can be easily knocked over, in unprotected light fixtures, or in locations where they can easily be broken, such as play spaces.
  - Other available options for these areas:
    - LEDs (super-efficient, with very low energy costs; pricey, although prices are dropping rapidly), and
    - halogens (inexpensive, more efficient than incandescents, but not as efficient as CFLs or LEDs).

Learn about current lighting choices.

- You can purchase CFL bulbs that have a glass or plastic cover over the spiral or folded glass tube, if available. These types of bulbs look more like incandescent bulbs and may be more durable if dropped.

- You can consider using a drop cloth (e.g., plastic sheet or beach towel) when changing a fluorescent light bulb in case a breakage should occur. The drop cloth will help prevent mercury contamination of nearby surfaces and can be bundled with the bulb debris for disposal.

What if I Can't Follow All the Recommended Steps? or I Cleaned up a CFL but Didn't Do it Properly?

Don't be alarmed; the steps outlined below are only precautions that reflect best practices for cleaning up a broken CFL. Keep in mind that CFLs contain a very small amount of mercury -- less than 1/100th of the amount in a mercury thermometer.

However, if you are concerned about your health after cleaning up a broken CFL, consult your local poison control center by calling 1-800-222-1222. You can call your center any time you have questions or in an emergency. You can also consult your physician about potential health effects from mercury exposures.

Information from Other Sources Relating to the Accidental Breakage of CFLs

The following links exit the site

EXIT
• January 2014 article "Separating Myth From Fact on CFL and LED Light Bulbs: Five Concerns Addressed" in NationalGeographic.com

• September 2012 article "Mercury risk from fluorescent lamps in China: Current status and future perspective" in the journal Environment International

• August 2012 article "Exposure analysis of accidental release of mercury from compact fluorescent lamps (CFLs)" in the journal Science of the Total Environment

• 2011 article "Environmental Release of Mercury from Broken Compact Fluorescent Lamps" in the journal Environmental Engineering Science (note that you must pay to read the full article)

• July 2011 article "Human health risks from mercury exposure from broken compact fluorescent lamps (CFLs)" in the journal Regulatory Toxicology and Pharmacology


• September 2008 article "Mercury: Cleanup for Broken CFLs" in the journal Environmental Health Perspectives

• February 2008 Maine Department of Environmental Protection Compact Fluorescent Lamp Breakage Study Report

• February 2008 Mercury Policy Project report: Shedding Light on Mercury Risks from CFL Breakage (PDF) (23 pp, 2.3 MB, about PDF)

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