

# Clean-up Procedure for Broken Lamps



## Clean-Up Procedure for a Broken Lamps

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### Risks

Intact (unbroken) fluorescent lamps (CFLs and fluorescent tubes) and HID lamps pose no health risk. Mercury in fluorescent lamps is in vapour form and also with the phosphor powder which coats the inside of the light bulb. Broken lamps release the mercury, which can enter the body by absorption through the skin or by inhalation of the vapour.

HID lamps contain more mercury than fluorescent lamps (30 mg on average). The mercury is sealed in a sealed glass or quartz capsule (referred to as an “ampoule” or “arc tube”) within the lamp. If the capsule remains intact the mercury is contained. However if the ampoule is broken mercury will be released to the ground.



In both cases a careful and prompt cleanup of the spill by the designated worker will minimize exposure to the staff, customers and to the environment.

A mercury spill must be treated as a serious safety concern. Staff should be trained in the management of broken lamps and the use of a spill kit.



**NOTE:** no health risks are posed from broken incandescent, halogen or LED lamps other than risk of cutting by broken glass.

### Clean-up Directions for Hard Surfaces

If you break a fluorescent lamp (CFL or fluorescent tubes) or HID lamp, follow these directions for clean-up:

#### Leave the room:

- Leave the room and keep people out from the room during the clean-up process.
- Avoid stepping on broken glass

#### Ventilation:

Ventilate the room for at least 15 minutes prior to starting clean-up by opening windows and doors to the outdoors. This will ensure that the mercury vapour levels are reduced before you start cleaning.

If you break a fluorescent lamp or the ampule contained within an HID lamp is visibly broken follow these directions for clean-up:

- Do **NOT** use a vacuum or broom to clean up the initial breakage, as it will spread the mercury vapour and dust throughout the area. Additionally, contamination may occur within the vacuum and/or on the broom.
- Wear disposable gloves to avoid direct contact with mercury and to reduce the risk of cuts.
- Scoop or sweep up the broken pieces and debris with the two pieces of cardboard provided in the clean up kit and place into the sealable plastic bag. Make sure to work from the outside of the spill to the centre. Use the cardboard to gather the beads of mercury. Tip- a flashlight held at a low angle in a darkened room can be used to find beads of mercury which can travel quite far on a hardened surface.
- Use eyedropper to collect mercury and then squeeze carefully into a damp paper towel. Repeat this step as often as necessary to cover the affected area thoroughly. Place the paper towel into the same sealable plastic bag (note this is only required for HID lamps with a visibly broken ampoule).
- Use packing tape to pick up smaller beads and place in plastic bag (note this is only required for HID lamps with a visibly broken ampoule).
- Residual mercury can be removed by wiping with vinegar followed by peroxide (note this is only required for HID lamps with a visibly broken ampoule).
- Keep the area well ventilated for 24 hours.
- Place the broken glass and all clean-up materials in the plastic bag and seal it to further minimize the release of mercury vapour.
- All contaminated items and mercury should be double or triple bagged.
- Once the clean-up effort is completed, place the sealed bags in a sturdy container (plastic container, glass jar etc.) and then place the container in a bulb box.

### Washing:

Wash your hands after storing and disposing of waste.

### Resources

US EPA:

- <http://www.epa.gov/mercury/spills/index.htm>

Environment Canada:

- <http://www.ec.gc.ca/mercure-mercury/default.asp?lang=En&n=D2B2AD47-1>

### **Spill Kit**

The program will supply you a spill kit containing the following:

- Sealable Plastic Bags
- Eye dropper
- Packing tape
- Cardboard
- Disposable gloves
- Disposable mask

### **Incident Reporting**

To report an incident involving 5 or more broken fluorescent lamps (CFLs and fluorescent tubes) or HID lamps, please use the form provided in Appendix B and forward to Product Care, as per the instructions on the form. Please keep this form blank and photocopy as needed.