



Cleaning up spilled mercury in the home

Most mercury spilled in the home is from broken thermometers. Clean up spilled mercury as soon as possible so family members are not exposed to airborne mercury, which can be hazardous to one's health. Doing your best to clean up spilled mercury will minimize your exposure to mercury.

Proper disposal of mercury is also very important. Mercury circulates in the atmosphere and falls with rain and snow into lakes and streams where small amounts can contaminate fish.

Safe cleanup is important

Mercury is toxic to many organ systems, including the central nervous system. If mercury gets into the blood stream, it can damage the brain, spinal cord, kidneys and liver. Children and fetuses are at highest risk if exposed to mercury.

When a thermometer or other mercury-containing device is broken, the spilled mercury forms droplets that accumulate in small pools and in the tiniest of spaces, making cleanup difficult.

Even though liquid mercury evaporates slowly, a significant amount of mercury vapor can build up in indoor air at room temperature after some mercury has been spilled. **It can be dangerous to breathe these mercury vapors.** Mercury vapor is odorless, colorless and very toxic when it is inhaled (when it is swallowed, mercury is typically not considered toxic).

Never heat liquid mercury. When heated, mercury evaporates rapidly, causing it to go into the air as mercury vapor. Indoors, mercury vapor can be dangerous to breathe. Outdoors, it adds to atmospheric pollution, which causes mercury contamination of fish.

In situations where mercury has been spilled in homes, entire families have been poisoned when the spill was not cleaned up properly or not at all. That's why it's important to clean up even a few drops of spilled mercury as soon as possible.

What to do *immediately* after a mercury spill

- 1. Isolate the spill and ventilate the area.**
 - Keep all people and pets away from the spill area.
 - Immediately open windows and exterior doors.
 - Close all doors between the room where the mercury was spilled and the rest of the house, and close all cold air returns so that mercury vapor is not carried throughout the house.
 - Turn down heaters and turn up room air conditioners. Do not use central air conditioning.
 - Turn off fans unless they vent to the outdoors.
 - Use fans to blow mercury-contaminated air outside.
- 2. Call a poison control center if someone has inhaled mercury vapors.** Phone 911 or the Poison Control Center at 800-222-1222 from anywhere in the state. (If you suspect a pet has been exposed to mercury, call your veterinarian.)
- 3. Call the Minnesota Pollution Control Agency** through the Minnesota Duty Officer, day or night, at 651-649-5451 or 1-800-422-0798 if the spill:
 - is a larger amount than that in a thermometer, such as spills involving mercury from antique instruments, home or school laboratories, or old mining materials.
 - occurred on a warm surface or in a device that vaporizes liquids, such as a humidifier.
- 4. Remove mercury from shoes, clothing, and skin.**
 - If mercury has touched your skin, shoes, or clothing, stay still and have someone bring you a plastic trash bag and wet paper towels.
 - Wipe off visible beads of mercury with wet paper towels and put them into the trash bag. Check your shirt pockets for mercury drops.
 - Remove contaminated shoes and clothing and place them in the trash bag. Seal the bag.
 - Dispose of clothing properly and shower well.
- 5. Decide** whether you will try to clean up the spilled mercury yourself or hire an environmental contractor.

What not to do after a spill...

- **Never** allow people who are wearing mercury-contaminated shoes or clothing to walk around the house. This will help prevent the spread of spilled mercury.
- **Never** use an ordinary vacuum cleaner or a shop vacuum to clean up mercury. The vacuum cleaner can heat up the mercury and cause it to become airborne mercury vapor. In addition, the vacuum cleaner will become contaminated with mercury and may continue to release mercury vapor for a long time. (See the advice on the next page if you've already tried to vacuum up the mercury spill.)
- **Never** use a broom to clean up mercury; it will break the mercury into smaller drops and spread it around more. The small droplets evaporate faster and are more difficult to clean up.
- **Never** pour mercury down a drain. The mercury can become lodged in pipes. It can pollute septic tanks or wastewater-treatment plants also.
- **Never** launder mercury-contaminated clothing in a washing machine because doing so can contaminate the washer. Dispose of mercury-contaminated clothing in the trash, or if it is visibly contaminated, take it to a household hazardous waste collection site.

What if you've already vacuumed up the spill?

If you've already tried to vacuum up spilled mercury, you've probably contaminated your machine. You can either discard your vacuum cleaner or try to clean it out in one of the following manners:

- **If your vacuum uses bags:** With the same bag in place that was used when you tried to vacuum up the spilled mercury, run the machine outdoors for an hour or more. Then, change the bag. Seal the mercury-contaminated bag inside a plastic bag, place it in another plastic bag, seal again, and label the outer bag *Mercury Waste: Hazardous*.
- **If your vacuum does not use bags:** Run the machine outdoors for an hour or more. Then carefully transfer any debris in the trap into a plastic bag and package and label the same as for a mercury-contaminated bag (as described in the previous paragraph).



Can you clean up the spill yourself?

You may be able to clean up a mercury spill yourself if it is:

- a small amount, such as that in a thermometer (this volume is about the size of a pencil eraser).
- in a small area and has not been spread around.
- on a smooth, hard, surface, e.g. tile, linoleum or wood.
- on a small, porous item, such as an area rug, that can be thrown away.

Find out whether your home insurance policy will cover the costs of cleanup or items discarded because they were contaminated with mercury.

Spill cleanup kits

If you want to talk to someone about whether using a mercury spill cleanup kit would be helpful for your situation or to find out how to get a cleanup kit, call the Minnesota Duty Officer who will connect you with appropriate MPCA staff: 651-649-5451 or 1-800-422-0798.

If you decide you can clean up the spill yourself...

1. Protect yourself. Before beginning the clean up a mercury spill:

- Change into old clothing and shoes that you can dispose of if they become contaminated.
- Remove all jewelry because mercury can adhere to metal.
- Put on gloves, preferably rubber gloves.

2. Assemble your cleanup supplies. Obtain a mercury spill cleanup kit or collect the supplies listed below. Everything contaminated with mercury must be disposed of.

- Gloves, preferably rubber
- Small plastic bags, preferably zipper style
- Large trash bags
- Large tray or box
- Paper towels, napkins, tissues or toilet paper
- Duct tape, packing tape, or masking tape
- Two index cards or stiff paper, cardboard, single-edge razor blades or a rubber squeegee

You may also need:

- Plastic dustpan
- Eyedropper
- Flashlight

3. Clean up (recover) the mercury (see instructions below for cleanup on various types of surfaces).

4. Remove your shoes and clothing.

- Carefully place contaminated shoes and clothing into a trash bag.
- Avoid touching anything that may have contacted mercury.
- Seal the bag.

5. Store mercury wastes properly.

- Store out of the reach of children, in a locked cupboard or on a high shelf, until you can dispose of it.
- Store away from heat and flames.

6. Immediately after the cleanup, wash your hands thoroughly and take a shower.

7. Ventilate the area to the outdoors for *at least two days* after the cleanup. Open windows and exterior doors for at least two days, if possible, and use fans to push contaminated air out. In winter, shut off the room by closing the door and sealing any cracks around it. Then, open a window and run a fan in that room for a couple of days.

8. Properly dispose of the mercury and mercury-contaminated items. (See the Proper disposal.)

9. If you have health concerns, call a physician or the Minnesota Department of Health at 651-215-0700 or visit its web site at www.health.mn.us.

- Urine and blood tests can measure mercury levels in the body; hair tests can give a history of exposure.
- Mercury vapor badges can measure the amount of mercury in the air.

Cleanup on various types of surfaces

Cleanup on hard surfaces (countertops, linoleum or tile)

- 1. Collect the glass (from the broken thermometer or other device):**
 - Place pieces of glass on a paper towel.
 - Fold the paper towel, enclosing the glass shards, and place it in a plastic bag and seal.
 - Label the bag *Mercury Waste: Hazardous*.
- 2. Collect the mercury:**
 - Push the beads of mercury together using two razor blades or stiff paper or cardboard. Use the flashlight to search for other glass shards and mercury – the light will reflect off the mercury.
 - Pick up the beads of mercury by pushing them into a dustpan or onto a stiff sheet of paper or cardboard. You can also try using an eyedropper to collect beads of mercury.
 - Working over a tray or box, slowly and carefully transfer the mercury into a wide-mouth, screw top container. Put on the lid, seal the lid with tape, and label the jar *Mercury: Hazardous*.
 - Place the wide-mouth container (with the liquid mercury) into a plastic bag and seal. Place the bag inside a second plastic bag and seal. Label the outer bag *Mercury: Hazardous*.
 - Pick up any remaining droplets of mercury and pieces of glass with tape. You can also use a cotton ball or moist paper towel to pick up mercury beads from cracks and crevices. Again use a flashlight to look for mercury droplets in cracks and crevices.
 - Working in a tray or box, place the mercury-contaminated tape into a plastic bag and seal. Label the bag *Mercury Waste: Hazardous*.
- 3. Collect the cleanup supplies:**
 - Place all items used for the cleanup – the tray or box, dustpan, paper, cardboard, tape, cotton balls, paper towels and eyedropper – into a plastic bag.
 - Carefully remove the gloves by turning them inside out and place them in the bag with the other cleanup supplies. Seal the bag.
 - Place the bag containing the cleanup supplies into a second plastic bag and seal the outer bag.
 - Label the outer bag *Mercury Waste: Hazardous*.

Cleanup on carpet

When possible, it's best to cut out the contaminated area of carpet and pad:

- Fold contaminated piece so mercury is trapped inside.
- Place the contaminated item and all items used for cleanup in a plastic bag.
- Place the bag into a second plastic bag and seal the outer bag with tape.
- Label the outer bag *Mercury Waste: Hazardous*.

If you're unwilling to cut out the contaminated area:

- Use cotton balls, moist paper towels, or an eyedropper to pick up the spilled mercury.
- Place all items used for the cleanup into a plastic bag.
- Place the bag into a second plastic bag and seal the outer bag with tape.
- Label the outer bag *Mercury Waste: Hazardous*.
- Cleanup on disposable, porous items (rugs or clothing)
- Cut the mercury-contaminated areas out of the item or fold the item so the mercury is trapped inside.
- Place the contaminated item and all items used for cleanup in a plastic bag.
- Place the bag into a second plastic bag and seal the outer bag with tape.
- Label outer bag as *Mercury Waste: Hazardous*.

Cleanup on large, valuable, porous items

If mercury has been spilled on a large or valuable item, such as a sofa, Oriental rug, or heirloom quilt, you may be able to follow this procedure:

- 1. Clean the item** as much as possible using the techniques described for cleaning mercury from carpet.
- 2. Remove the item from the home** and store it in an unoccupied, warm, ventilated place for several months to allow the mercury to vaporize. Do not put the item in an attached garage.
- 3. Hire an environmental laboratory to test** the item to see whether all the mercury has vaporized.

Cleanup of broken fluorescent and HID lamps

1. **If the lamp has just been broken, quickly open a window or exterior door** and leave the area for 15 to 20 minutes.
2. **Follow mercury cleanup instructions for the type of surface to be cleaned.**
3. **Label the container *Mercury Waste: Hazardous*.**

Proper disposal

Take these to your household hazardous waste collection site. To find one near you, go to www.moea.state.mn.us/lc/county.cfm or call your county's environmental office.

- Liquid mercury: Put it in a sturdy, plastic container with a screw cap and label it *Mercury: Hazardous*.
- Broken fluorescent and HID lamps
- Mercury-contaminated soil
- Shoes and clothing that are visibly contaminated with mercury
- Mercury cleanup wastes (disposable gloves, glass pieces, cotton balls, trays, paper towels, razor blades, cardboard, tape and any other items used for cleanup that may have contacted mercury)

Put these items into your regular trash:

- Shoes and clothing that are not visibly contaminated with mercury
- Items that have contacted mercury but are not visibly contaminated with mercury if your local household hazardous waste collection site won't take them (for example, mercury does not adhere to dry paper or cardboard).

Help reduce mercury contamination

Coal-fired power plants emit mercury to the atmosphere. So, using less electricity in your home helps reduce demand for electricity and mercury contamination of the environment.

- Turn down the furnace and water heater.
- Install energy-efficient fluorescent lighting.
- Caulk and weather-strip your home.

For more information

For help with a mercury spill in your home, call the Minnesota Duty Officer at 651-649-5451 or 1-800-422-0798.

For help with disposal of other household hazardous wastes, contact the MPCA's household hazardous waste program at 651-296-6300 or toll-free 800-657-3864, or call your local county HHW collection facility. Check out other resources online: www.moea.state.mn.us/hhw/.