

Mercury Spills in Residential Settings

Mercury is a naturally occurring substance that exists in 3 main forms: elemental (pure form), inorganic and organic. All 3 forms can be toxic to humans, but elemental mercury is the form that is sometimes spilled at home. Elemental mercury is a shiny, silvery metal that is liquid at room temperature, and forms beads when spilled. Some of it also evaporates to form a colourless and odorless vapour at room and higher temperatures.

Where might I have elemental mercury in my home?

Some common household products contain elemental mercury. This includes some (older) thermometers, blood pressure devices, thermostats, barometers and electrical switches. Smaller amounts of elementary mercury exist in fluorescent lamps, including compact fluorescent lamps and high intensity discharge lamps. Examples include those found in some automobile headlights.

These objects are safe as long as the mercury stays contained. They only pose health risks if they break and the mercury spills.

What are the health effects of exposure to elemental mercury?

If inhaled

Exposure to elemental mercury occurs primarily through the inhalation of mercury vapours. The vapours are then absorbed into the bloodstream through the lungs and distributed throughout the body. The level of toxicity depends on how much mercury vapour you inhale, and for how long.

When you inhale large amounts of mercury vapour over a short period of time (such as from a spill of mercury in a blood pressure device), the lungs and airways can become irritated. This causes symptoms such as cough, shortness of breath, chest pain and headaches. Gastro-intestinal symptoms can also occur, including nausea, vomiting and diarrhea. In severe cases, lung diseases such as pneumonitis, necrotizing bronchiolitis and pulmonary edema have also been reported. This degree of exposure rarely occurs in residential settings.

Inhalation of small amounts of mercury vapour (such as from a spill of mercury in a thermometer) over a brief period is unlikely to cause symptoms. However, when inhaled over a longer period of time, it will affect your

nervous system, causing shaking, drowsiness, weakness, anxiety, depression and even personality changes.

If swallowed

Ingestion of elemental mercury is generally non-toxic because it is poorly absorbed in the gut. However, repeated or large exposures may lead to toxic health effects.

Skin contact

Small amounts of skin contact with elemental mercury are rarely associated with negative health effects. Rash or inflammation at the site of contact is possible, but rarely do reactions occur beyond the site of contact.

Who is most strongly affected by exposure to metallic mercury?

Infants, children and pregnant individuals have greater risk of negative health effects.

This is because the body systems of infants and children are still growing and they have limited ability to eliminate mercury. In pregnancy, the developing baby's nervous system is of particular concern.

What do I do if there is a mercury spill in my home?

Depending on the size and nature of the spill, you can attempt to clean and dispose of the liquid mercury on your own (see instructions below).

You will need the help of professionals for large or complicated spills. If in doubt, contact your local health authority's environmental agency, the Drug and Poison Information Centre or your local fire department for help (see contact information below).

- DO NOT use a vacuum cleaner or a broom/brush. This will contaminate your vacuum and break the mercury up into smaller droplets, creating more vapour
- DO NOT walk around in contaminated shoes or clothing. This will spread it around
- DO NOT put clothing contaminated with mercury into the washing machine. This will contaminate your machine

- DO NOT dispose of mercury down a drain or into regular garbage. Contact your municipal waste department for disposal instructions

Clean up instructions

(Please see the National Collaborating Centre for Environmental Health's cleanup instructions for more details:

[www.nccceh.ca/sites/default/files/Small Mercury Spills Clean-up Oct 2015.pdf](http://www.nccceh.ca/sites/default/files/Small_Mercury_Spills_Clean-up_Oct_2015.pdf) (PDF 227KB).

- DO clean only small spills, such as from broken thermometers, thermostats or fluorescent lamps. Contact your local health authority's environmental health agency or your local fire department, for spills larger than the amount of 1 or 2 tablespoons (contact information below)
- DO clean only spills on hard surfaces or on easily disposable items, such as on clothing or rugs. Contact your local health authority's environmental health agency or fire department for help regarding spills that are on absorbent and difficult to dispose of items (such as carpets)
- Ventilate the spill area directly to the outdoors by opening doors and windows, if possible
- Turn off any interior ventilation or fans that could circulate air from the spill site to other areas of the home. This includes turning down heaters or air conditioners and turning off fans
- Always use gloves
- If the spill is on a hard surface, use stiff materials to scoop up the mercury and pour it into a sealed container. Examples of stiff materials include index cards, cardboard pieces, squeegees, etc
- If the spill is on a disposable porous material, such as on clothing or a rug, double bag the items with garbage bags
- Small droplets of mercury can remain and may be difficult to see. Use a flashlight to help illuminate its metallic sheen. You can use the sticky side of duct tape or shaving cream on the end of a paintbrush to pick up the remaining droplets
- Seal all items that have come into contact with mercury, including your clothes, cleaning supplies and sealed container of mercury, into double-bagged garbage bags
- Contact your municipal waste department for instructions on disposing of the bag

What healthcare precautions should I take to protect myself and my family from mercury spills?

Making sure spills are properly cleaned and disposed of is the best way to protect your health. Minimizing you and your family's exposure to the spill will prevent harmful health effects. If you have any doubts or concerns about cleaning up spills, call your local health authority's environmental health agency, the BC Drug and Poison Information Centre (open 24 hours a day) or your local fire department.

Watch for common symptoms of exposure, including sore throat, coughing, shortness of breath, chest pain, nausea, vomiting and diarrhea. More severe symptoms include tremors, memory changes, drowsiness and personality changes.

If you are concerned about any symptoms, contact your healthcare provider and inform them of your exposure to metallic mercury. Your healthcare provider can order tests and provide treatment.

Small residential mercury spills rarely, if ever, lead to medical emergencies. Call the Drug and Poison Information Centre (1 800 567-8911) or **9-1-1** if you are ever in doubt.

For more information

Health Canada

www.canada.ca/en/health-canada/services/healthy-living/your-health/environment/mercury-human-health.html.

US Environmental Protection Agency

www.epa.gov/mercury.

Health Authority Contacts

For a list of Health Authority contact information, see: www2.gov.bc.ca/gov/content/health/about-bc-s-health-care-system/partners/health-authorities/regional-health-authorities.

BC Drug and Poison Information Centre (available 24/7)

Website: www.dpic.org.
Phone: 1 800 567-8911.