



Environmental Health Information

School Mercury Spills: Avoiding a Costly Clean up and Protecting Public Health August 2007

To protect people's health and to make clean up easier and faster, take these steps:

- 1. Get people out of the area of the spill.**
- 2. Open outside doors and windows** near the spill to provide ventilation and dilute the mercury vapor in the air.
- 3. Contain the spill** to avoid tracking mercury into other areas.
 - Was any mercury removed? Kids are fascinated by mercury and are tempted to take it home to play with later.
 - Was any mercury tracked from the place where it was spilled? Shoes are very effective at transporting mercury. Shoes can be removed immediately and later checked for mercury vapor.
 - Was any mercury spilled or played with in such a way that it became "trapped" in clothing, hair or shoes? Were those clothes washed or dried with other clothing? Keep, bag and label these personal items so that they can later be checked for mercury vapor.
- 4. Shut off fans and ventilation systems** to avoid spreading mercury vapors into the rest of the building.
 - Did the ventilation system allow mercury vapor to move into other areas? Ventilate these areas with outdoor air.
 - Did any mercury beads get into the ventilation system? Evacuate areas supplied by this part of the ventilation system.
- 5. Keep the air temperature of the area around the spill as low as possible** to slow down the evaporation of mercury vapor into the air.
6. If mercury came into contact with people's skin, have them wash the area with soap and water.
7. Most short term contact with mercury vapor can be managed by following the steps above. If it appears that someone may have inhaled or ingested dangerous amounts of mercury, or had unusual contact with mercury, seek medical advice.
8. If the spill is smaller than the amount of mercury found in fever thermometer, see the information sheet on cleaning up small spills. If the spill is larger, call the state duty officer at 1-800-422-0798 or 651-649-5451.



Minnesota Department of Health ♦ Division of Environmental Health ♦ Site Assessment and Consultation Unit

651.201.4897, or 1.800.657.3908, press 0 ♦ www.health.state.mn.us

Why is there so much concern about spilled mercury in schools?

Health risks from contact with mercury depends on the amount of mercury, how long you are exposed and the way the mercury gets into your body. Your unique health situation also influences whether or not you get sick. The developing fetus is especially vulnerable to mercury.

The way a chemical gets into someone's body can make an enormous difference in the chemical's ability to cause damage. Very little mercury is absorbed through our skin and so very little enters the blood from skin contact. The same is true for elemental mercury that is swallowed; almost all of the mercury passes through the body and never gets into the blood. Mercury vapor, however, can be breathed in and almost 80% of inhaled mercury passes from the lungs into the blood where it can circulate and cause damage to the brain, kidneys and liver -- and even death.

Mercury vapor evaporates very slowly at room temperature. It takes decades for a teaspoon of mercury to evaporate completely at room temperature. Active ventilation dilutes the amount of mercury vapor in the air from a spill and can keep short term exposures from being a health concern. However, slight increases in temperature rapidly increase the level of mercury vapor in the air. Heating mercury is very dangerous.

Mercury vapor is colorless and odorless. Until a few years ago, it was very difficult to measure mercury vapor in the air. Scientists had very little idea of how much mercury vapor could be inhaled by people from invisible beads left behind from a broken thermometer. Now we know that people can inhale low levels of mercury for many years and not realize it.

These characteristics of mercury cause us to have great concern when there is any chance that there could be long term exposure to low levels of mercury vapor. While mercury beads are easily cleaned from hard surfaces, spills on soft surfaces, such as carpet, cannot be cleaned and the carpet needs to be removed. When mercury amalgamates (sticks) to metal objects, like keys or phones, the object can become a source of low level mercury vapor for many years and is cause for concern. Contact with skin or beads that roll off of clothing and then are collected for proper disposal are less of a concern.

For more information contact:

MDH/Site Assessment and Consultation: (651) 201-4897 or 1 (800) 657-3908, press "4" and leave a message. By email: haz.health@state.mn.us

To request this document in another format, call (651) 201-5000, TDD or, (651) 201-5797.

This information sheet was prepared with partial support from the Agency for Toxic Substances and Disease Registry (ATSDR). This does not imply that ATSDR has endorsed this information sheet.