



This fact sheet is intended to be a quick reference tool for people who are involved in a mercury spill and cleanup event.

MERCURY

Elemental mercury, also called “quicksilver,” is a heavy, silvery, form of the metal mercury that is liquid at room temperature. It can slowly change from a liquid into a gas that is invisible to the naked eye. The gas or “vapors” that are released will start to fill a room if mercury is spilled indoors.

MERCURY EXPOSURE

Mercury is a very toxic or poisonous substance that people can be exposed to in several ways. If it is **swallowed**, like from a broken thermometer, it mostly passes through your body and very little is absorbed. If you **touch** it, a small amount may pass through your skin, but not usually enough to harm you. Mercury is most harmful when you **breathe** in the vapors that are released when a container is open or a spill occurs.

HEALTH EFFECTS

Pregnant women, infants and young children are particularly sensitive to the harmful effects of mercury. The health effects that can result from mercury exposure depend on how much mercury you are exposed to and how long you are exposed.

Some of the **acute** effects, ones that may come soon after exposure to high concentrations of mercury are:

- Headaches, chills, fever
- chest tightness, coughs
- hand tremors
- nausea, vomiting, abdominal cramps, diarrhea

Some effects that may result from **chronic**, or longer term exposure to mercury vapor can be:

- Personality changes
- Decreased vision or hearing
- Peripheral nerve damage
- Elevated blood pressure

Children are especially sensitive to mercury and at risk of developing a condition known as **acrodynia or “Pinks Disease”** by breathing vapors or other exposure circumstances. The symptoms of this condition include:

- reddening of the palms and soles of the feet
- itching with peeling skin
- increased heart rate and blood pressure
- behavioral changes
- muscle weakness
- sweating and hair loss

There are tests that a doctor can do to measure whether you have been exposed to too much mercury. These tests can show whether you have more mercury in your body than someone who has not been exposed to a mercury spill. A blood test is the most accurate for a recent exposure, for example one that occurred less than a week earlier. A urine test is better for measuring mercury when the exposure has happened over a period of several weeks or more. If your tests indicate a large exposure there are medications your doctor may prescribe that will remove the mercury from your body. You may call **the Michigan Department of Community Health’s hotline (1-800-648-6942)** or the national **Poison Control Center toll free number (1-800-222-1222)** if you or your doctor want help interpreting test results.

MERCURY IN INDOOR AIR

The amount of mercury vapor that can be in the air in a workplace, like a factory, is regulated by government agencies. The amount of mercury vapor that is considered safe in a home, school, or business is not regulated but health agencies, like the Agency for Toxic Substances and Disease Registry (ATSDR) have **recommended levels** that are considered protective of human health. The recommended levels in homes where children are often present and people spend a lot of time are much lower than those for workplaces. Mercury vapor levels are usually measured in micrograms of vapor per cubic meter of air which is also written as $\mu\text{g}/\text{m}^3$.

After spilled mercury has been cleaned up in a home or other structure, and all the contaminated materials have been removed, the rooms should be well

ventilated. This gets rid of most of the mercury vapor and brings large supplies of fresh air into the home. When this is complete, the home is stabilized, meaning it is returned to the condition it is usually lived in, and the air is tested to make sure there is no further cleanup necessary. The level of mercury vapor in the air that ATSDR recommends for homes, assuming no mercury beads are still present, is **1ug/m³** or less. Some machines measure mercury in nanograms per cubic meter (ng/m³) so it is important to know that 1000ng/m³ is the same as 1 ug/m³. In most situations, it is necessary to test using a vapor analyzer machine or a laboratory-processed tube sampler to know if the recommended cleanup has been achieved.

Mercury Spill Cleanup Contractors

If you have a mercury spill and workers come in response to it, the actions they will take are the following:

Characterization – Finding where the mercury is and where it isn't. They also test the air in the breathing zone to determine if it is safe for you and others to stay in the building while they do their work.

Remediation – Removing all mercury beads and mercury contaminated items that cannot be cleaned, and cleaning surfaces using the appropriate equipment, chemicals and materials. For example, if they use a vacuum cleaner it will be one specifically designed for mercury, not a household or shop vacuum.

Ventilation – Exhausting the mercury vapors from the building and bringing uncontaminated air in to replace it.

Aftertesting – In most circumstances, performing tests to determine if the air in the stabilized setting is at or below the recommended level or concentration considered safe for the intended use of the building or home.



For more information regarding mercury please call the **Toxics and Health Hotline** at the Michigan Department of Community Health **1-800-648-6942**