

Safety Precautions:

For private residences with small spills:

- If possible, replace mercury containing thermometers with a digital thermometer
- If a spill does occur, evacuate and ventilate the area
- **Never** use a vacuum to clean up a mercury spill
- **Never** use household cleaning products on a mercury spill
- Always wear rubber gloves during the clean up
- Clean up mercury by using two pieces of paper to push the beads of mercury onto one of them and place beads into a container with a lid
- For smaller beads of mercury, use a piece of tape to pick them up
- Dispose of the sealed mercury container, and any objects which had contact with the mercury, in a sealed garbage bag in your household trash

For industries with large spills:

- Replace mercury containing products with less hazardous alternatives
- Keep a mercury spill kit on hand
- If a spill does occur, evacuate, secure and ventilate the area
- Follow proper procedures for cleanup and disposal, including guidance in the Colorado Universal Waste Rule (6 CCR 1007-3 Part 273)

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Mercury Facts



Colorado Hazardous Substances Emergency Event Surveillance System



Colorado Department
of Public Health
and Environment

In 1990, the Colorado Department of Public Health and Environment (CDPHE) began participating in the Hazardous Substances Emergency Event Surveillance System (HSEES) under a cooperative agreement with the Agency for Toxic Substances and Disease Registry. The purpose of this project is to investigate hazardous substance releases and, based on the results of these investigations and data analyses, conduct prevention outreach activities to reduce injuries and deaths resulting from these releases. This fact sheet is one of the prevention outreach activities of the project.

This fact sheet contains information on mercury and mercury releases in Colorado. Analysis of the HSEES data from 1998 has shown mercury to be the most commonly released substance in Colorado. Based on this information, it is imperative to have a clear understanding of the causes and impacts of mercury releases.

Mercury is primarily used in instruments such as thermometers and barometers, but can also be used in mirror coating, electrical components, cathodes for production of chlorine and caustic soda, mercury vapor lamps, metallurgy, arc lamps, boilers, coolant, as a catalyst and as a neutron absorber in nuclear power plants. It is a silver-white, extremely heavy (molecular weight 200.59), odorless, mobile liquid, sometimes found native. It is highly toxic by skin absorption; inhalation of fume or vapor is absorbed by the respiratory and intestinal tract. Mercury has a Threshold Limit Value of 0.05

mg/m³ in air and an Immediately Dangerous to Life and Health Value of 10 mg/m³. Federal Drinking Water Standard is 2 Fg/l. Contact with fire will produce irritating, corrosive and/or toxic gases. Acute exposure symptoms may range from metallic taste, nausea, abdominal pain, vomiting, diarrhea and/or headache. Chronic exposure may be deadly. Children are more susceptible than adults to mercury poisoning. The UN Number is 2809, and response procedures can be found in the Emergency Response Guidebook, Number 172.

In 1998, there were 37 reported mercury releases in Colorado, 35 (94.6%) occurred at fixed facilities and 2 (5.4%) occurred in transportation. The majority of releases (24.3%) occurred in elementary and secondary schools, followed by offices and clinics of physicians (21.6%), private households (13.5%), colleges and universities (10.8%), research, development and testing services (5.4%), nursing and personal care facilities (5.4%), hospitals (5.4%), water supply and irrigation (2.7%), automotive repair and services (2.7%), air transportation (2.7%) and agriculture production (2.7%). The amounts released ranged from 1 milliliter to 5 pounds. Of the 37 mercury releases, 10 (27.0%) of the events involved evacuations. Of the evacuations, 6 (60.0%) were from elementary and secondary schools, 3 (30.0%) were from private households, and 1 (10.0%) were from offices and clinics of physicians. Length of evacuation ranged from 1-16 hours. Number of people evacuated ranged from 2-250.

The following events are examples of mercury incidents which have occurred in Colorado:

- A rat ate through the rubber stopper on a wall barometer, causing the release of 5 pounds of mercury to the cement floor of a university building. Cracks in the concrete allowed the mercury to saturate underlying soils and the entire floor and contaminated soil had to be removed.
- Neighborhood children found a mercury spill kit in the garbage of a local hospital. The kit contained over a pound of mercury. The children took the mercury home, on the school bus and into their middle school. All areas were contaminated and had to be evacuated and decontaminated. The hospital was charged with failure to report a spill and illegal disposal.
- Children found a container of mercury in an abandoned garage. The children proceed to dump the material onto the sidewalk and write their names in it with their bare hands. All were sent to the hospital for exposure testing.