



The Danger of Mercury in Schools

Administrators, teachers, students and parents must be informed of the health hazard that liquid mercury vapor may pose in order to prevent mercury releases in our schools. Mercury exposure in schools has been only a minor problem with the small number of mercury containing devices such as thermometers used

in the chemistry laboratories or the nurse's office. However, school systems throughout the nation have not been prepared for the increasing number of children bringing elemental mercury from home to school.

Nevertheless, mercury is a focus of entertainment to children due to its unusual behavior from being the densest metal in liquid form at room temperature. Much of the mercury that has been released in schools has come from children bringing mercury to school rather than finding a source from school chemistry labs. These mercury clean-ups have incurred phenomenal costs as well as posing a very dangerous exposure hazard to all building occupants. Not to mention, litigation to determine the culpability of the cost of cleanup as well as long-term health effects.

Just recently, a small daycare center in New Jersey was discovered to be an abandoned thermometer manufacturing facility. Some of the kids showed signs consistent with mercury poisoning such as upper respiratory problems, fatigue, dizziness, loss of appetite, diarrhea, peeling skin on fingers and toes, uncontrollable eye twitching, and unexplained rashes; while others suffered headaches, nausea, and vomiting. Chronic mercury exposure can damage brain, heart, and other organs and can induce numbness or trembling of the extremities with slurred vision and speech as well as mercury-induced seizures.

On the second week of school, at a charter school in Florida, another mercury incident hit the headlines "Mercury Closes Area School." A student brought a vial of 2-4 ounces of liquid mercury to school that opened and seeped through a backpack onto a desk as a handful of students played with a small glob of mercury. The student obtained the mercury from a relative. Hundreds of students and personnel endured quarantine for hours while authorities delineated the extent of the incident. It was determined over 70 students were exposed to the mercury vapors.

In 2003, the Environmental Protection Agency (EPA) profiled a number of school mercury release incidents. In Nevada, a middle school student obtained mercury from his grandfather's garage and brought it to school. Sixty-one students came in direct contact with the mercury while mercury contamination was discovered in the gymnasium, locker rooms, classrooms as well as some buses. The school was closed for 4 days and the cost of the cleanup exceeded \$100,000. EPA, Region 9, comprising Nevada, California, and

Arizona, has determined that the source of most mercury releases in schools is from home rather than the science laboratories or nurses' stations.

A Washington D.C. high school student appropriated almost a half a pint of elemental mercury from the school chemistry lab, entrepreneurially even sold some to fellow students. By the time emergency responders arrived at the scene, the mercury had contaminated a large portion of the school. Inadvertently, students carried the mercury on their clothing and shoes onto the buses and into their homes; 16 families were displaced for a month. The school was closed for 35 days and over 200 homes were evaluated for mercury contamination. The total cost of this mercury cleanup exceeded 1.5 million dollars.

EPA's "Universal Waste" rule has streamlined collection requirements to encourage recycling of mercury-containing devices and fluorescent lamps. Many states have already launched mercury school awareness and elimination programs that have been very successful in collecting/disposing of mercury while replacing these items with mercury-free alternatives; in particular, swapping mercury thermometers for digital thermometers. Although a mercury awareness and elimination program could be an invaluable tool to mitigate costly cleanup events from occurring in schools, parents also have the responsibility to make sure students do not bring mercury to schools. The liability may be passed on to you.

EPA's School Chemical Cleanout Campaign (SC3) along with Florida Department of Education (DOE) as well as the Department of Environmental Protection (DEP) is actively promoting laboratory cleanouts of potentially dangerous chemicals that are found in our science labs, biology labs, as well as art programs, that generate hazardous waste. For school and home mercury removal, the DEP's Household Hazardous Waste Collection Program will accept mercury and mercury-containing items for recycling or disposal. Please reference the following web pages for assistance in mercury disposal in Florida:

<http://www.firn.edu/doe/curriculum/sc3/index.htm>

<http://www.dep.state.fl.us/waste/categories/hazardous/pages/schoolchemicals.htm>

In addition, the Florida Department of Health also has an awareness fact sheet to prevent and avoid exposure from mercury spills:

http://www.doh.state.fl.us/environment/community/SUPERFUND/pdf/Mercury_Fact_Sheet.pdf

<http://www.doh.state.fl.us/environment/community/SUPERFUND/pdf/mercurybro2.pdf>

Other useful links for mercury awareness and elimination are:

<http://www.pca.state.mn.us/publications/p-p2s4-03.pdf>

<http://www.noharm.org/us/mercury/resources>

<http://www.michigan.gov/deq/0,1607,7-135--11693--,00.html>

<http://www.pca.state.mn.us/programs/mercury-free/goals.html>

<http://www.mercuryinschools.uwex.edu/project/index.htm>

http://www.health.state.ny.us/nysdoh/enviro/hsees/mercury_brochures/nurses.htm