Dangers Posed by Mercury Vapors

Liquid mercury gives off vapors at room temperature. These vapors are the main health threat from a spill of liquid mercury, and skin contact should be avoided as well. Once in vapor form, mercury can be inhaled into the lungs, then passed into the blood stream. It is hard for many people to take the risk of liquid mercury seriously, because many have played with mercury as children or broken mercury thermometers without experiencing ill health effects. It is true that the majority of small mercury spills create no detectable health consequences, and fortunately there is no evidence that construction and demolition workers receive unusually high mercury exposures. However, even a small spill can have ill effects, including hospitalization and even death, under the wrong conditions-when it is not cleaned up properly and when ventilation is poor or the mercury is exposed to heat. Therefore, it is important for even a small spill to be cleaned up properly. Click here for information regarding containment and cleanup of a mercury spill. If a spill is not dealt with properly, further contamination to fellow employees or to the home may occur.

The symptoms of overexposure to mercury may include such personality manifestations as: irritability, excitability, or excessive timidness. Other symptoms include: headaches, drowsiness or insomnia, weakness, and acrodynia, or pink disease, which causes skin, especially on hands and feet to turn pink. Many cases also include reports of sore mouths, excessive salivation, and perspiration. In mercury intoxication, a common symptom is a tremor which is aggravated by emotion or excitement. Also included in the literature as symptoms of mercury intoxication are: loss of appetite, weakness, digestive disorders, kidney damage, and bleeding gums.

Young children, and the fetus of a woman exposed to mercury during pregnancy, are particularly at risk.

How Humans are Exposed to Mercury

Mercury is found in various forms throughout the environment. Any of these forms may be involved in human exposure.

Elemental mercury (mercury zero) is most harmful when it evaporates. Mercury is extremely volatile in its elemental form and can give off mercury vapor at room temperature. This vapor can be inhaled into the lungs and passed into the blood stream. Liquid mercury can also pass through the skin into the blood stream. If swallowed, this form of mercury is generally not absorbed through the stomach and usually passes out of the body without harm.

Inorganic mercury compounds (mercury two) can be inhaled and may also pass through the stomach if swallowed. Many inorganic mercury compounds are also irritating or corrosive to the skin and eyes.
Organic mercury compounds like methylmercury can enter the body readily through all three routes - lungs, skin and stomach. The main human exposure to mercury is through ingestion of fish that contain methylmercury.

In 1980, The National Institute for Occupational Safety and Health (NIOSH) indicated that 67,551 workers in 2,877 workplaces were potentially exposed to mercury. Most of the exposed workers were employed in the health services, business services, special trade contractors, and in chemical and allied products industries as chemical technicians, science technicians, registered nurses, and machine operators.