



## **Mercury Spills - Prank, Accident or Malicious Intent Bottom Line is Major Disruption and High Costs**

### **Mercury the Element**

Mercury, once called quicksilver, is an element that is liquid at room temperature. Once spilled it forms small silver beads that bounce and run like “ball-bearings” across hard surfaces. Falling beads of mercury splash and break into smaller beads when they hit solid surfaces, and they can penetrate into small cracks and crevices. The smaller the beads, the greater the total surface area, and the higher the rate of evaporation of mercury vapors into the air.

For decades mercury was readily available in school laboratories although many states are now demanding control of mercury or are banning it from schools. Many homeowners, fascinated with the properties of the metal, have retained small quantities of this material in their homes. Mercury is widely available in industrial settings; it is used in the manufacture of fluorescent lamps, mercury switches, mercury vapor lamps, thermometers, barometers, thermostats, dental fillings, blood pressure instruments, neon lamps and throughout the medical profession.

Specialty shops such as “Botanicas” carry mercury, as ethnic folk medicines, or products for religious practices. Mercury, sold under the name azogue, is used by some Hispanic communities, in the belief that it brings them good luck. They expose themselves, and their friends and families, to mercury, by sprinkling it in their homes, adding it to bath-waters, and incorporating it in the manufacture of devotional candles.

### **Health Effects**

Metallic mercury, the silver shiny metallic liquid, can vaporize into the air when heated. It also quickly combines with other elements such as chlorine, sulfur or oxygen to form inorganic salts. Mercury also combines with carbon to form organic salts the most common being methylmercury. People exposed to mercury vapors, or these salts, can absorb them into their bodies by breathing in contaminated air, by direct absorption through the skin, or by the ingestion of food or liquids containing mercury. Mercury is released into the air by volcanoes, or from the incineration of waste. Much of this mercury is washed out of the air by rainwater and finds its way into lakes, seas and oceans. Here fish absorb the mercury, which slowly accumulates in their bodies. Subsequently the mercury is transferred to animals and humans who consume the fish.

In humans, mercury has been associated with serious neurological problems leading to abnormal loss of sensory ability, speech problems, tremors and seizures, convulsions and even death. Infants and children exposed to mercury suffer loss of brain functions such as attention span, and their speech and walking ability may be severely retarded.

### **Business Disruption**

According to newspaper reports, since 1998, there have been no less than twelve school closures in the US due to mercury contamination. Cleanup costs have soared into the hundreds of thousands of dollars. There have been massive disruptions of day-to-day activities, followed by the inevitable media attention. Our concern is the risk of deliberate disruption to businesses by disgruntled employees, mentally disturbed persons, or professional bioterrorists. Few “chemical weapons” are as easy to acquire as mercury and the potential damage wrought by small quantities of this material to the normal operation of any building is well documented.

