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Mercury Contamination— a new source of concern

Mercury exposure can occur from a variety of sources most of which have had some level of publicity. Dental fillings, seafood consumption, fluorescent light bulbs, thermometers—these are some of the potential routes for contamination. Another source of potential exposure can occur in our schools. From science class to gym class—mercury is where you would expect it and perhaps where you wouldn't. Science class and the school infirmary are obvious places where mercury is, usually, safely contained and stored but what about gym class? It's not an obvious place for mercury to be found but states like Minnesota are taking a serious look at the polyurethane floors that make up a typical gym. Some polyurethane or rubber-like floorings manufactured from about 1960 through at least 1980 contained up to 1,000 milligrams per kilogram (mg/kg) mercury. Within the past few years it has been shown that some of these floors release significant amounts of elemental

Sources of Contamination

- Fish
- Groundwater/soil
- Polyurethane floors
- Thermometers
- Science laboratories
- Fluorescent light bulbs
- Occupational exposure

mercury into the air (ATSDR 2003a; 2004). These releases have been shown to elevate the concentration of mercury in air in rooms with these floorings. There are currently no published protocols for determining whether a floor contains mercury. It is suggested that a room with a mercury-containing floor will have mercury vapor concentrations throughout the room greater than 50-100ng/m3.

How mercury can affect health -

The verdict is still out on whether or not mercury is a carcinogen; the Environmental Protection Agency has classified it as a potential carcinogen. Exposure to high levels of mercury can permanently damage the brain, kidneys and developing fetus. Short term exposure to a high level of mercury vapors can cause lung damage, nausea, vomiting, diarrhea, increases in blood pressure and heart rate, skin rashes and eye irritation.

Ways to decrease mercury exposure -

Carefully handle and dispose of mercury containing products such as fluorescent bulbs, thermometers and older mercury containing medicines. Do not vacuum spilled mercury as it will vaporize and increase exposure. Be aware of fish advisories in your area and watch routine consumption of fish that is known to be high in mercury such as Chilean sea bass, grouper, king mackerel, marlin, orange roughy, shark, swordfish, tilefish, tuna steaks and sushi grade tuna.



High levels of mercury can be found throughout the environment affecting water, soil and food.

Chinese workers lose their lives producing goods for America

The following excerpt was taken from an article written by Loretta Tofani published in the Salt Lake Tribune. Select the link at the bottom for the full article.

With each new report of lead detected on a made-in-China toy, Americans express outrage: These toys could poison children. But Chinese workers making the toys - and countless other products for America -- touch and inhale carcinogenic materials every day, all day long: Benzene. Lead. Cadmium. Toluene. Nickel. Mercury. Many are dying. They have fatal occupational diseases.

The toxins and hazards exist in virtually every industry, including furniture, shoes, car parts, electronic items, jewelry, clothes, toys and batteries interviews with workers confirm. The interviews were corroborated by legal documents, medical journal articles, medical records, import documents and official Chinese reports. And although these products are being made for America most Chinese workers lack the health protections that for nearly half a century have protected U.S. workers, such as correct protective masks, booths that limit the spread of sprayed chemicals, proper ventilation systems and enforcement to ensure that their exposure to toxins will be limited to permissible doses measured in micrograms or milligrams.

Chinese workers also routinely lose fingers or arms while making American furniture, appliances and other metal goods. Their machines are too old to function properly or they lack safety guards required in the U.S.

[.....click here to read the full article.....](#)

Analysis of the Month

Metals

For the month of March, DataChem is offering a discount on our [metals analysis using NIOSH 7300](#). A panel of 27 elements for \$100, a single element for \$40 and additional elements for \$15. For further details contact us at info@datachem.com. For a complete list of our Salt Lake lab services visit www.datachem.com

To take advantage of the offer simply refer to the newsletter in your analytical request. Discount is only available at our Salt Lake laboratory.

Take Home Contamination— "Fouling Ones Own Nest"

The transmission of potentially toxic quantities of industrial chemicals from occupational settings to homes and residences is referred to as take-home contamination or "fouling ones own nest." This route of exposure can occur even when the proper protocols seem to be in place to prevent an occurrence.

Industrial Chemicals—can be carried from the workplace to the home on clothes, tools, shoes, skin and hair. Young children are the most susceptible to adverse affects from exposure. Breast milk is another source of exposure; in some cases industrial chemical levels have been found to be three to ten times higher in breast milk than in maternal blood however, there are very few instances of documented harm in a nursing baby as a result of ingested chemicals.

Fibrous Materials—among spouses of asbestos workers and children at home, radiographic abnormalities consistent with asbestos exposure were almost seven times more frequent than expected. Contamination can persist for years; it has been found in the homes of former asbestos workers 20 years after the workers stopped working at the plant.

Organic Compounds—chloracne, an acne-like eruption, has been found in children exposed to trichlorophenol, dioxins, and other polycyclic halogenated compounds. Children of workers employed in the manufacture of synthetic estrogen reported breast discomfort as well as an unexpected increase in the enlargement of mammary glands in male children. Children of agricultural workers have an increased exposure to pesticides.

In some industries it is necessary to leave work clothes at work to be laundered. This decreases inadvertent exposure to family members. When working with certain materials, it may also be necessary to shower at work prior to leaving for home.

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