General Information about Lead in Drinking Water

How does lead get into drinking water?

Lead can enter drinking water when service pipes that contain lead corrode, especially where the water has high acidity or low mineral content that corrodes pipes and fixtures. The most common problem is with brass or chrome-plated brass faucets and fixtures with lead solder, from which significant amounts of lead can enter into the water, especially hot water.

Corrosion is a dissolving or wearing away of metal caused by a chemical reaction between water and your plumbing. A number of factors are involved in the extent to which lead enters the water, including:

- the chemistry of the water (acidity and alkalinity) and the types and amounts of minerals in the water,
- the amount of lead it comes into contact with,
- the temperature of the water,
- the amount of wear in the pipes,
- how long the water stays in pipes, and
- the presence of protective scales or coatings inside the plumbing materials.

Is there a safe level of lead in drinking water?

The Environmental Protection Agency (EPA) has determined the level of lead contamination in drinking water at which no adverse health effects are likely to occur with an adequate margin of safety. This level for lead in drinking water has been set at zero because lead can be harmful to human health even at low exposure levels and can accumulate in the body over time. This level is considered a maximum contaminant health goal and is non-enforceable. Detection of a lead level 15 or more parts per billion (ppb) in drinking water requires actions to be taken in accordance with EPA's Lead and Copper Rule (http://www.epa.gov/dwreginfo/lead-and-copper-rule).

How can I tell if a plumbing product is free of lead?

You can check to see if the product has been certified as meeting the lead free requirements of the Safe Drinking Water Act or you can contact the manufacturer of the product. Not all products that meet the lead free requirements have been certified.

See http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100LVYK.txt for information on how to identify lead free certification marks in plumbing products.

What should I do if I suspect my drinking water at home has high lead levels?

Testing is the only way to confirm if lead is present or absent. Most water systems test for lead as a regular part of water monitoring, but those tests give a system-wide picture and do not reflect conditions at a specific drinking water outlet. Water testing should be done by a laboratory certified to test drinking water. A list of laboratories in Idaho and out of state that are certified to test drinking water can be found at http://healthandwelfare.idaho.gov/Health/Labs/DrinkingWaterCertification/tabid/1833/Default.aspx. For more information about protecting your family's health from lead exposure in drinking water at home, see http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=500025PW.txt.

Are there other ways besides drinking water that my children and I could be exposed to lead?

Yes. Lead-based paint and lead contaminated dust are the most hazardous sources of lead for Idaho children. All houses built before 1978, when lead-based paint was banned for use in housing, are likely to contain some lead-based paint. Deterioration of this paint contaminates house dust and peeled paint is attractive for young children to put in their mouths. Other sources of lead can be certain traditional folk medicine and cosmetics, candy imported from Mexico, toys, and toy jewelry.

Lead poisoning in adults is usually due to lead exposures in the workplace or related to hobbies that can cause exposure in adults. Workers might be exposed to lead from paint, batteries, ammunition, radiators, pipes, solid waste, car parts, galvanized steel, and materials used in the production of rubber, glass, or plastic. For a list of jobs and industries in which workers are more likely to come in contact with lead, see http://www.cdc.gov/niosh/topics/lead/jobs.html. Hobbies that might involve being exposed to lead include stained glass making, jewelry construction, pottery and ceramics, art restoration, fishing, making bullets, and firearm practice.

References and Resources

EPA. Basic Information about Lead in Drinking Water
http://www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water

Idaho Department of Environmental Quality: Lead in Drinking Water
https://www.deq.idaho.gov/water-quality/drinking-water/pws-monitoring-reporting/contaminants/lead.aspx

Idaho Division of Public Health, Bureau of Community and Environmental Health
http://www.healthandwelfare.idaho.gov/?TabId=95

CDC Lead Website
http://www.cdc.gov/nceh/lead/