



The presence of lead in drinking water is more prevalent and serious than many people realize. Despite common perceptions, lead is not restricted to inner-city communities, but rather is a problem that affects many water systems across the country. According to an Environmental Protection Agency study released in 1993, more than 800 drinking water systems around the nation contain excessive lead. Today, the EPA estimates that more than 40 million North Americans are exposed to potentially dangerous amounts of lead in their drinking water.

Recent legislation has helped decrease the problem. In 1991, the EPA imposed new standards for lead levels in drinking water that are 10 times more protective than levels previously thought to be safe. The new standard allows for a lead level of no more than 15 parts per billion (ppb). Current studies, however, show that lead levels in our drinking water continue to be too high. What's more, new research indicates that lead may be more harmful than previously thought.

### **Who is at Risk?**

People of all ages are at risk. Studies show that young children, infants and pregnant women are particularly vulnerable to unsafe lead levels. The EPA estimates that one in six North American children under the age of 6 has elevated lead levels in their blood.

Lead is especially dangerous to children and pregnant women because it can impair a child's mental and physical development, reduce a baby's birth weight and cause premature birth.

Prolonged exposure to increased lead levels also can cause aggressive behavior, hyperactivity and learning problems. In adults, increased lead levels have been linked to high blood pressure and damaged hearing.

Serious lead poisoning can lead to blindness, brain damage and mental retardation.

### **How Lead Gets into Your Water**

Drinking water comes from one of two sources: surface water, which is rainwater and melted snow that collects in streams, lakes and reservoirs; and groundwater, which is pumped from wells in bedrock and soil. Water is virtually lead-free as it leaves these sources and is processed through the municipal water treatment plant. It is during its journey from the water treatment facility to your tap that lead can leach in the water.

Water travels from the treatment plant to your neighborhood through large service mains under streets, and then through smaller connectors and service lines to your house or building. Even if the water main pipes are lead-free, the connectors, service lines and pipes within your home or building are likely to contain some lead, either in the pipe itself, or in the solder used to connect copper pipes. Even some brass and chrome-plated faucets leach lead into the water.

Water chemistry helps to increase the presence of lead. Lead is more likely to leach into water that is acidic, has a low mineral content and sits in contact with the lead for a long time. It is less likely to dissolve in hard water, which has a high content of dissolved minerals that, over time, can coat the inside of pipes, preventing lead from entering the water.

In response to the growing lead problem in water, Congress in 1986 restricted the lead content of faucets, pipes and other plumbing materials to 8 percent and banned the use of lead solder containing greater than 2 percent lead. Even with these restrictions, aggressive waters

can still leach out dangerous amounts of lead in a few hours.

Many homes and buildings constructed before this time are likely to have even more lead in their plumbing system. Research shows that many of the faulty systems tend to be in older communities, such as those in larger cities.

### **Detecting Lead in Your Water**

Lead cannot be seen, tasted or smelt in drinking water. The best way to determine if it is present is to have your water tested. Your local water supplier is required to test the overall system and inform you if as few as 5% of the samples exceed 15ppb lead.

If you want to take samples in your home or business, either your supplier or the provincial health department should be able to provide you with the name of a certified drinking water testing laboratory. Or check the Yellow Pages under “laboratories”. Be sure the lab is government certified. They generally provide their own bottles and instructions for taking samples. The cost of a water test varies, depending upon the number of contaminants you wish to test for.

If your test results show that your water has a high concentration of lead, there are a few things you can do to help reduce your lead intake.

### **Steps for Reducing Lead in Drinking Water**

Let the cold water run for a few minutes before you use it for drinking or cooking, especially if the water faucet goes unused for more than six hours. Water that stands in pipes for several hours is more likely to contain lead.

### **Removing Lead from Water**

While government legislation has helped reduce lead levels in water, the best solution for protecting yourself from lead is to remove it from the water. This can be done simply and cost effectively with a point-of-use (POU) drinking water filtration system Certified for

Lead Reduction by NSF International, an independent testing agency that sets standards for products that can affect public health.