

Lead: It's Hazard and Abatement by Kathy Lautz

Lead is one of the elements of the periodic table, a heavy metal, which was discovered early in human history. The symbol for the element is Pb. In Latin a "plumberius" was what we know today as a plumber. Lead has had many applications throughout history. It has been well established for centuries that lead is poisonous to humans. The old names for lead poisoning are "plumbism" or "saturnism." Plumbers were the primary victims of plumbism because plumbing pipes were put together with molten lead, which has a low melting point and is easily worked, but gives off toxic lead fumes. We've all heard the theory that maybe the Roman civilization fell because everyone was poisoned by their lead plumbing pipes!

Lead is used in many industrial applications even today. Your body is protected from stray radiation by a lead apron when the dentist x-rays your teeth. Lead was included in paint for many years because it made the paint much more durable. The manufacture of lead based paints, some containing as much as 25% lead, was finally completely phased out only in 1978. Lead, as a gasoline additive has also been phased out since the 1970's. Auto emissions from leaded gasoline have permeated our soils, which in turn can be taken up by food plants. Car batteries continue to be manufactured using lead. Plumbing codes have been changed to prohibit the use of lead based solder in water lines. Many decorative glazes for pottery and porcelain contain lead. There's a lot of lead out there in many different forms.

How serious is the lead poisoning problem? How do children get poisoned with lead? Have blood lead levels been decreasing in the US based on all this attention? How much lead does it take to poison a child? What's the best way to prevent lead poisoning? And how does all this affect me as a property owner?

Almost a half a million children living in the US have blood lead levels high enough to cause irreversible damage to their health. Lead poisoning affects virtually every system in the body, particularly in very young children who are growing rapidly. Over the years, the Center for Disease Control keeps lowering the amount of blood lead that triggers concern. Several years ago, the trigger amount of concern was 40 micrograms of lead per deciliter of blood. That amount was reduced to 30 micrograms, then 20, and now finally 10 micrograms. There seems to be no threshold below which the ingestion of lead into the human system has no ill effect.

The amount of lead it takes to poison a child is incredibly small. Lead the size of just a few grains of sugar ingested over a few days is enough to poison a child. Blood lead levels are measured in micrograms, or one millionth of a gram. A packet of sugar substitute weighs about one gram, and it is difficult to imagine just a few millionths of that packet.

The symptoms of lead poisoning are difficult to identify, and often appear as other problems. Lead damages the brain and nervous system, slows growth, causes hearing problems, headaches, and behavior and learning problems. In adults it can cause reproductive problems, nerve disorders, memory and concentration problems, high blood pressure, and muscle and joint pain. The only sure way to identify lead poisoning is by a blood lead level test. Much of the state and national funding for lead poisoning prevention is funneled to blood testing and poisoning prevention among high-risk groups.

On average, blood lead levels have been decreasing right in line with the decrease in the use of lead as a gasoline additive. But, the higher levels are still neatly clustered in areas with older, deteriorating housing stock. This clustering points to the main causes of lead poisoning in children.

It is clearly understood and well documented that the primary sources of lead poisoning in children are deteriorating paint, paint dust, dust from non-American made mini-blinds manufactured with lead, and lead contaminated soil. Matters are not helped by the fact that young children, particularly toddlers, play on dusty floors, chew on windowsills, and put things in their mouths that they pick up in the dirt. The group at greatest risk is one to two year old children. It is their natural behavior to pick things up and put them in their mouths. Lead also tastes sweet, so little children will continue to eat paint chips because they taste good!

What is the beleaguered landlord to do? Is it all just doom and gloom on the lead front? Absolutely not! The good news is that lead poisoning is easily preventable. A few simple, safe, economical and easily managed practices are all it takes to keep children and renovation workers

safe and sound in a normal dwelling. (Major industrial renovation is another matter, and beyond the scope of this article.) There are also many things your tenants can do to minimize their children's exposure to lead. An easy to understand booklet about lead that you can distribute to your renters is available from the US Environment Protection Agency, and distributed by your county health department and many other sources.

The most important thing an apartment building owner can do is to keep the painted surfaces inside and outside the building well maintained. The saying "An ounce of prevention is worth a pound of cure" applies in this area, as in so many others.

If you are a do-it-yourself hands-on landlord, learn about the simple steps you need to implement when preparing surfaces for painting. There are many classes and publications available from various government entities that detail safe lead practices for owners. Some of the proper steps involve:

- containing the work area with plastic film,
- wet scraping and sanding to control dust,
- wearing the proper respirator and clothing to protect you,
- using a HEPA filter vacuum cleaner during cleanup,
- wet moping the floor after vacuuming
- washing your hands and face after finishing work,
- washing your work clothes separately from other clothes

If you are working outside, the containment practice also includes not allowing the soil below your work area to become contaminated with paint chips. A good way to think about this is to "have control over where the paint chips are going."

A construction project that involves a large area of lead-based paint is better handled by a contracting firm that has received special training in minimizing lead contamination. Tenants have become knowledgeable about lead poisoning hazards, and will notice and appreciate careful, safe management of any painting project in and around an old building.

From another point of view what a reputable and "lead certified" abatement and remediation contractor will do for you primarily is control your liability. The contractor will know the codes and regulations surrounding lead hazard abatement. They will know how to treat each situation the most effectively to reduce your exposure to tenant complaints and claims. Be sure to ask any lead certified contractor how they plan to go about minimizing and containing the paint chips and dust on your project. They should have a clear plan that they can easily explain to you.

To test for lead levels for a large project it is wise to hire an independent testing firm, one separate from the abatement or remediation contracting firm,. The worker protection requirements become more careful and detailed as the lead exposure levels increase. The testing firm should specify the actions required to solve the problem, and then the remediation firm provides the clean-up service. This approach prevents the obvious conflict of interest when a remediation firm "writes its own ticket."

There are many levels of federal, state and local funding and regulations concerning lead poisoning. Although lead poisoning is a serious issue, its prevention is not difficult and there are many resources to help you maintain your property so that it is safe for your renters and workers.

The information from this report was compiled from numerous sources. Contact your county or local municipality for assistance, or visit the website of the California Department of Health Services, Childhood Lead Poisoning Prevention Branch at <http://www.dhs.ca.gov/childlead> or call 800-597-5323 for detailed information. Also see <http://www.hud.gov/offices/lead> for HUD lead hazard control grants, i.e., funding for property owners and other information for property owners. The information in this article is general in nature. For specific guidance and regulations, contact a certified remediation contractor or ask for assistance from your local Lead Poisoning Prevention Program specialists.