

## Toolbox Safety Topic

### Lead Safety

Lead is a metallic element found worldwide in rocks and soils. The toxic effects of lead have been known since ancient times. Recent research has shown that lead represents a greater hazard at lower levels of concentration than had been thought. Airborne lead enters the body when an individual breathes lead particles or swallows lead dust. Until recently, the most important source of airborne dust was automobile exhaust.

#### **Lead is a metal. It's found just about everywhere. It really can't affect my health, can it?**

(Yes, it can.) When ingested, lead accumulates in the blood, bones, and soft tissue of the body. High concentrations of lead in the body can cause death or permanent damage to the central nervous system, the brain, the kidneys, and red blood cells. Even low levels of lead may increase high blood pressure in adults. Infants, children, pregnant women, and fetuses are more vulnerable to lead exposure than others because the lead is more easily absorbed into growing bodies, and their tissues are more sensitive to the damaging effects of the lead. Because of a child's smaller body weight, an equal concentration of lead is more damaging to a child than it would be to an adult.

Symptoms of Lead Poisoning can include headaches, irritability, abdominal pain, vomiting, anemia, a metal taste in your mouth, and weight loss. Adult bodies can reduce the lead in their bodies naturally in minor exposure cases. Children's bodies cannot. In children, the symptoms are a little different and can include poor attention span, noticeable learning difficulty, slowed speech development, and hyperactivity.

Some of the resulting effects of Lead Poisoning include reading and learning disabilities, speech and language handicaps, lowered I.Q., neurological deficits, behavior problems, mental retardation, kidney disease, heart disease, stroke, and even death.

Lead can be found just about everywhere, even in your home. Drinking water, paint (interior and exterior), dust within a home, and soil around the home can all contain lead. Hobbies which could expose you to lead include ceramics, stained-glass making, fishing sinkers, lead shot, soldering electronics, figurine smelting, and do-it-yourself projects involving paint stripping.

At work, lead exposure can occur in plumbing and pipe fitting (exposed to solder), printers/typesetters (less common nowadays), construction/demolition workers, gas station attendants, police officers, traffic wardens, paint stripping, and others less common at VT (glass and battery manufacturers, lead mining, etc.).

How you can reduce your exposure to harmful lead dust and fumes at home and at work:

- have paint tested on campus before disturbing, let licensed workers abate
- use adequate ventilation when soldering
- wear necessary personal protective equipment (respirators, goggles, etc.)
- contact EHSS for more information and paint testing
- use lead-free paints, ceramic glazes, gasoline, etc.
- have your water tested by local authorities if you have older pipes or well water
- do not burn or sand paint (which creates harmful dusts and fumes)

We're all exposed to lead in some form or another. The important thing to remember is not to overexpose ourselves unnecessarily. Ventilation is an important control for fumes and there are wetting techniques and containment methods which may work best for lead dust exposure. And as always, you can contact Environmental Health and Safety Services for more information and training. Sometimes the best protection is being aware of the hazards and staying away from them.

**Any questions?**

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Date: \_\_\_\_\_

Meeting Conducted By: \_\_\_\_\_ Title: \_\_\_\_\_

## Attendees

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