Lead
Fact Sheet

Pure lead is a heavy metal at room temperature and pressure and is a basic chemical element. It can combine with various other substances to form numerous lead compounds.

Exposure to lead can occur in a variety of ways, including melting pure lead to use in glazing, molding, soldering, removal or encapsulation of lead or lead containing products (e.g., paint). This can include the alteration, repair, or removal of structures that contain lead.

Lead can be absorbed into your body by inhalation (breathing lead dust or fumes) and ingestion. Lead (except for some organic lead compounds) is not absorbed through the skin. When lead is scattered in the air as a dust, fume, or mist it can be inhaled and absorbed through your lungs and upper respiratory tract. Inhalation of airborne lead is generally the most important source of occupational lead absorption. You can absorb lead through your digestive system if lead gets into your mouth and is swallowed. If you handle food, cigarettes, chewing tobacco, or make-up that have lead on them or handle them with hands contaminated with lead, this will contribute to ingestion. A significant portion of the lead that you inhale or ingest gets into your bloodstream. Once in your blood stream, lead is circulated throughout your body and is stored in various organs and body tissues. Some of the lead is quickly filtered out of the body and excreted, but some remains in the blood and other tissues. As exposure to lead continues, the amount stored in your body will increase if you are absorbing more lead than your body is excreting. Exposure to excessive amounts of lead over long periods of time can cause damage to organs and body systems, including the nervous, reproductive (in men & women) and blood forming systems. Some common symptoms of lead poisoning include loss of appetite, metallic taste in the mouth, constipation, muscle and joint pain, excessive tiredness, nervous irritability, impotence, and abdominal pain caused by lead colic.

In recognition of these health hazards, agencies of the Federal and State Government have established standards and regulations regarding exposure to lead, including the Occupational Safety and Health Administration (OSHA) lead standards for general industry and construction, which are enforced at the UIUC by the Illinois Department of Labor (IDOL); and the lead Poison Prevention Act rules and regulations enforced by the Illinois Department of Public Health (IDPH). It is the goal of the University to not only comply with mandated standards, but to achieve the lowest practical levels of lead exposure to employees and visitors of the university. It is necessary that University employees receive information about the health effects of lead exposure and the types and locations of lead-containing materials in the workplace. This information should include information about who to contact in case of accidental damage to lead containing material.

Work with lead containing material is safe unless the lead becomes airborne. Employees should take care not to disturb lead-containing material during their normal activities. IDPH-certified workers must do lead removal work in residences, day cares, or preschools where children under the age of six may be present.

Paint is considered lead-containing as defined by IDPH when it contains 1 mg/cm^2 or 5,000 ug/g (0.5%) lead by weight. The OSHA permissible exposure limit for airborne lead is 50 micrograms lead per cubic meter of air (50 ug/m^3) with a 30 ug/m^3 action level. Blood lead levels of concern are defined as levels above 40 ug/dl (micrograms lead per deciliter whole blood) for adult workers per the OSHA standard, and 10 ug/dl for children per the IDPH regulations. Blood levels can be obtained via a local medical care provider.

Information about lead sampling procedures, employee awareness training, and the location of lead on the University campus or other information about lead can be obtained from Safety and Compliance, (217)265-9828.