ENVIRONMENTAL HEALTH & SAFETY

November 2024

Lead Safety

What is Lead?

Lead (Pb) is a naturally occurring metal and is a basic chemical element. It can combine with various other substances to form numerous lead compounds. Lead was used in a wide variety of products, including paint. However, the use of lead in paints in the U.S. was banned in 1978. **Before conducting work in any building built prior to 1979, please contact EHS for a construction & renovation assessment.**

Routes of Exposure.

Inorganic 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.

Health Hazards:

- **Neurological Effects** – damage to the nervous system, learning disabilities, impaired cognitive function
- **Cardiovascular Effects** – increased risk for high blood pressure and heart disease
- **Kidney Effects** – kidney damage leading to possible kidney failure
- **Reproductive Effects** – reduced fertility, miscarriages and developmental issues in newborns
- **Chronic Exposures** – joint and muscle pain, memory loss and mood disorders
- **Acute Exposures** – high exposures in short periods can lead to seizures, coma and/or death

Potential lead exposure activities:

- Lead soldering
- Campus building and/or resident hall **paint removal**
- **Demolition and renovation** of buildings
- Maintenance or repair of painted steel structures (handrails, poles, etc.)
- **Welding, torch cutting, scraping, grinding, or sandblasting** painted metal objects
- Removing or pulverizing deteriorating, peeling, or chipping paint

How to protect yourself and others from lead exposure:

Lead or lead containing products can be **removed or encapsulated** to be managed in place. The management technique depends on the type of product, where it is and the condition of the product. An example of an encapsulated lead product is paint that has been sealed with a non-lead-based paint. This method is effective as long as both coats remain intact.

- **Pre-project planning** - Check with EHS prior to starting to determine if any of the material you will be working with contains lead.
- **If you are unsure if lead exposure is possible – Stop and contact EHS for assistance.**
- **When working with products that contain lead** - Appropriate PPE, such as respirators, can greatly reduce the chance of exposure to lead. Contact EHS for assistance with respirator requirements.
- **Proper Signage** – While working in areas where exposure may exceed the Permissible Exposure Limit (PEL), ensure proper signage to warn others.

Overview of Fact Sheet

This fact sheet provides general awareness as to what lead (Pb) is, how it's used, how it affects the body, and how exposure may be avoided. Please remember that **it is your responsibility as an employee** to follow safe working practices and report any unsafe conditions to your immediate supervisor.

Environmental Health and Safety (EHS) can assist the campus community by completing lead exposure sampling, recommending engineering controls, PPE, and providing lead product disposals.

If you have any questions regarding lead or other safety topics, please contact the Environmental Health and Safety Office at 704-687-1111. Please visit our website (safety.charlotte.edu) to review material on additional safety and regulatory topics.