Introduction

Because of its physical properties, lead has been widely used as an additive to many building materials. Although lead has been banned from use on potable water supplies and residential paint, it may still be present in older buildings. Some lead containing building materials continue to be used to this day.

Exposure to dust and/or fumes generated from the disturbance of lead-containing materials can result in adverse health effects, depending on the concentration, duration and frequency of exposure. Once in the body, lead can adversely affect the blood-forming, nervous, urinary and reproductive systems.

The following materials should be presumed to contain lead unless manufacturer information, MSDS, or testing proves otherwise:

- Interior and exterior paint
- Steel and iron primer
- Industrial paint
- Industrial electrical jacketing
- Roof flashing
- Tank linings
- Soft solder
- Glazed Ceramics
- Sheeting, blocks, and bricks in floors and walls for x-ray penetration protection

Regulatory Information

The Occupational Safety and Health Administration (OSHA)

- Lead in Construction Standard (29 CFR 1926.62) regulates demolition, salvage, removal, encapsulation, installation, transportation, disposal, storage and containment of lead materials. The focus of this standard is to protect employee health during the disturbance of lead materials. Note that this standard applies to any detectable concentration of lead in a material.

The Environmental Protection Agency (EPA)

- Resource Conservation and Recovery Act (RCRA) regulates the labeling, handling, storage and disposal of hazardous waste. Lead based paint (LBP) that has been removed from a building may be considered to be subject to this regulation depending on how quickly lead leaches from the paint.

Department of Housing and Urban Development

- Lead Safe Housing Rule is designed to protect children from exposure to lead dust in defined “target housing”. The rule includes provisions for disclosure of known locations of lead based paint to tenants, distribution of informational pamphlets and abatement of lead based paint during conversions and major renovations. “Target housing” EXCLUDES:
  - Housing built in or after 1978
  - Housing exclusively for the elderly or people with a disability, unless a child under age 6 is expected to reside there
  - “Zero-bedroom” dwellings, including efficiency apartments, single room occupancy housing, dormitories or military barracks
  - Properties that have been found to be free of lead-based paint by certified lead-based paint inspectors

Procedure
General Precautions

USC employees, under no circumstances, should disturb any lead containing material, including lead-based paint, without proper training and implementation of certain work practices. Failure to adhere to these work practices may result in lead exposure not only to the person(s) doing the work, but University employees/students in the vicinity.

Lead Management Program

USC departments and regional campuses that are responsible for maintenance, renovation or demolition projects either through contracts or employed staff must develop and implement a written Lead Management Program (LMP). EHS has developed a template that can be downloaded and used as a basis for a written program.

The purpose of the Lead Management Program is to prevent lead exposure of all workers, regardless of job title and to help prevent the potential for building contamination from lead during demolition, maintenance, and renovation activities in University owned structures. The requirements in this Program set standards for work that disturbs lead-containing materials. Contractors engaged in such projects are expected to possess the managerial expertise, experience and to employ workers with skill, training, and experience so that the work is carried out in compliance with these requirements.

The disturbance of lead containing materials can produce dust and debris that may be regulated by the EPA and SCDHEC as hazardous waste. A Toxicity Characteristic Leachate Procedure (TCLP) test is required to make this determination.

It is important that all dust and debris resulting from the disturbance of lead containing materials be evaluated to determine if it is regulated. Building materials coated with intact lead materials, determined by bulk sampling or X-ray fluorescence testing, are not regulated as hazardous waste, but may require disposal at a Municipal Solid Waste Landfill.

All maintenance and custodial staff at USC should receive, at a minimum, Lead Awareness Training. This training is included as part of the EHS annual safety training program.

Roles and Responsibilities

Environmental Health and Safety (EHS)

- Provide technical guidance to University personnel concerning lead hazard evaluation and control.
- Review results of air monitoring provide and interpretation for departments managing work.
- Conduct compliance audits of projects involving the disturbance of lead materials.
- Direct the University departments conducting the work to modify or stop lead related work practices if employees, students, or the public are being exposed to lead hazards.
- Maintain records of all sampling data submitted to EHS.
- Periodically review departmental Lead Management Programs and recommend revisions as necessary.
- Provide Occupational Exposure to Lead training in accordance with 29 CFR 1926.62 (L)(2) for University employees engaged in activities that disturb lead-containing materials.
- Provide Lead Awareness training in accordance with 29 CFR 1926.62 (L)(2) for University employees engaged in activities that disturb lead-containing materials.
- Periodically review the departmental and regional campus Lead Management Programs and revise as necessary.

University Departments or Regional Campuses Managing Renovation, Demolition, Maintenance Work

- Develop and implement a Lead Management Program. Report any problems associated with implementation of the Lead Management Program to EHS.
- Prior to the initiation of any interior or exterior work involving lead containing or presumed lead containing material by an outside contractor, provide EHS with an Initial Lead Project Notification. Consult with EHS on contracted projects requiring removal or demolition of potential lead containing building materials.
- Ensure that all construction and maintenance work involving lead or lead-based materials, both in-house and contracted, is performed in accordance with current regulatory requirements, and that the work practices outlined in the departmental Lead Management Plan are followed.
• Stop or modify lead related work practices if employees, students, or the public are being exposed to lead hazards.
• Disclose known information regarding the presence of lead in building and construction materials to any contractor retained to conduct demolition or renovation work.
• Ensure that the Contractor has read, understands, and will abide by the minimum performance standards required in the Lead Management Program for controlling lead hazards.
• Conduct area air monitoring and clearance sampling by qualified consultant as required by this program and provide EHS with all sample results.
• Ensure all lead related work-sites and all areas that have been contaminated resulting from the work conducted are properly cleaned and meet the clearance criteria required by this Program.
• Ensure all hazardous waste is properly identified, labeled, segregated and stored at the job-site until removed by an approved hazardous waste contractor.
• Provide specific contractor language regarding projects that may contain lead to outside contractors bidding on projects.
• Ensure that all personnel who disturb lead containing materials receive Occupational Exposure to Lead Training. EHS can provide this training.
• Ensure that all maintenance staff receives Lead Awareness Training annually. EHS can provide this training.

For More Information

EHS Contact

• Contact Ken Mixon at (803) 777-4995

Downloads

• Lead Management Program Template – for developing an internal lead management program
• Lead Work Warning Sign (Appendix 2 of Lead Management Program)

Links

• Lead Based Paint Disposal Fact Sheet (linked to SCDHEC website)
• OSHA’s Lead in Construction Page (linked to OSHA website)
• Lead Safe Housing Rule (linked to HUD website)