

BIE SAFETY ADVISOR

The toxic effects of occupational exposure to lead are well established. Lead is a potent, systemic poison that serves no known useful function once absorbed by the body. Lead adversely affects numerous body systems and causes forms of health impairment and disease that can arise from acute or chronic exposure, including damage to blood-forming, nervous, urinary, and reproductive systems.

New York's urban areas have seen the renovation and rehabilitation of many old and abandoned buildings to provide up-scale apartments, senior housing, retail space, and many other uses. In addition to many safety hazards, construction employees involved in Gut Rehabilitation and Demolition work are also potentially exposed to various health hazards such as, but not limited to lead. When the rehabilitation or demolition activity disturbs any existing building materials, employees working in the area may potentially be exposed to the resulting airborne contaminants.

Who is exposed to lead? OSHA estimates that approximately 838,000 workers in construction are potentially exposed to lead. Construction workers are exposed to lead during the removal, renovation, or demolition of structures painted with lead pigments.

Where does exposure to lead occur?

Lead is an ingredient in thousands of products widely used throughout industry, including paints, solder, electrical fittings and conduits, tank linings, plumbing fixtures, and many metal alloys. Although many uses of lead have been banned, lead-based paints continue to be used on bridges, railways, ships, and other steel structures because of its rust and corrosion inhibiting properties. Significant lead exposures can also occur when paint is removed from surfaces previously covered with lead-based paint.

What must employers do? The employer must conduct initial exposure assessments of all workplaces and operations where lead or lead-containing materials are being used, disturbed, or

removed to determine if any employees may be exposed at or above the action level.

For all occupational exposure to lead occurring in the course of construction work, the standard does not specify a minimum amount or concentration of lead that triggers a determination that lead is present and the potential for occupational exposure exists.

Objective or historical data can be used to satisfy the requirement for an initial exposure determination. The historic work data must be of sufficient quality to permit the employer to forego conducting the initial monitoring. The data must provide the levels of exposures to lead that employees receive during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing during the current work operations, or represent the highest level of exposure.

Additional employer responsibilities:

The employer must ensure that each employee has access to labels on containers of lead and safety data sheets and is trained in accordance with the provisions of the Hazard Communication Standard. At a minimum, the following hazards must be addressed:

- Reproductive/developmental toxicity
- Central nervous system effects
- Kidney effects
- Blood effects
- Acute toxicity effects



Monthly Toolbox Talk

Lead Exposure in Construction

How Lead Exposures Can Happen.

Lead is a common hazardous element found at many construction sites. Lead exposure comes from inhaling fumes and dust and lead can be ingested when hands are contaminated by lead dust. Lead can be taken home on workers' clothes, skin, hair, tools and in vehicles.

Lead exposure may take place in demolition, salvage, removal, encapsulation, renovation and cleanup activities.

You can be exposed by breathing in lead fumes or lead dust.

- Lead fumes are produced when metal is being heated or soldered.
- Lead dust is produced when metal is cut or when lead paint is sanded or removed with a heat gun.
- Lead dust can be produced when drilling into floors or cutting walls that once contained lead paint, even after the paint has been removed.
- Lead fumes & lead dust do not have an odor; you may not know you are being exposed.

You can be exposed by ingesting lead dust.

- Lead dust can settle on food, water, clothes, and other objects.
- If you eat, drink, or smoke in areas where lead is disturbed you could ingest lead dust.
- Not washing your hands before you eat or touch your mouth are also ways of ingesting lead dust.
- Though not always the case, ingested lead may leave a metallic taste in your mouth.

You can be exposed by coming in contact with lead dust.

- Some studies have found lead can be absorbed through skin. If you handle lead and then touch your eyes, nose, or mouth, you could be exposed.
- Lead dust can also get on your clothes and in your hair. If this happens, it's possible that you may track home some of the lead dust, which may also expose your family.

Avoid Exposure

- Use proper personal protective equipment (e.g., gloves, clothing & approved respirators).
- Wash hands and face after work and before eating.
- Never enter eating areas wearing protective equipment.
- Never wear clothes and shoes, that were worn during lead exposure, away from work.
- Launder clothing daily using proper cleaning methods.
- Know the symptoms of lead exposure (e.g., severe abdominal pain, headaches).

Use Respirators

- Wear appropriate respirators as directed.
- Conduct a user seal check each time a respirator is donned.
- Be aware of your company's respiratory protection program and understand the limitations and potential hazards of respirators.

Prevent Further Exposure

- Use dust-collecting equipment when possible.
- Use lead-free materials and chemicals.
- Use wet methods to decrease dust.
- Use local exhaust ventilation for enclosed work areas.

