

5

minute safety talk



Get the Lead Out... Safely

Recognizing the dangers of lead, the paint industry began to voluntarily phase out lead paint in 1960, yet many workers and their families are still exposed to this hazard. Lead poisoning has become a serious issue, especially in construction safety. Health experts estimate that between 2 million and 3 million workers are at risk of lead exposure.

According to OSHA, overexposure to lead is most common in the construction industry among trades such as plumbing, iron work, welding, lead-based paint removal, electrical work and others. These trades often are involved in activities that generate lead dust and fumes.

Beware of exposure hazards

Similar to asbestos, only upon being disturbed does lead become a hazard. You may get lead poisoning if you ingest or inhale lead dust or fumes. In adults, common symptoms of acute lead poisoning include nausea, vomiting, loss of appetite, stomach cramps, headache, fatigue, joint or muscle pain, constipation, anemia and decreased sexual drive. Lead poisoning also can cause damage to the nervous system and even lead to death.

Workers who experience repeated exposure to lead over time can develop chronic lead poisoning, an accumulation of lead in the body. Lead accumulates in bones and is gradually released into the bloodstream. Long after the exposure has ended, the effects of chronic lead poisoning can harm the nervous system, kidneys, bones, heart and reproductive system.

Agencies set limits

In May 1993, OSHA adopted a standard that reduced the permissible exposure limit for lead in construction to a time-weighted average of 50 micrograms per cubic meter of air (mg/m^3). The standard also includes requirements for exposure assessment, methods of compliance, respiratory protection, protective clothing, equipment, training and more. In addition, the American Conference of Governmental Industrial Hygienists sets its limits even lower. It has adopted a recommended threshold limit value of $30 \text{ mg}/\text{m}^3$.

Protect yourself and your family

An effective lead-abatement program includes protection against airborne lead exposure as well as good worker hygiene. Workers can contaminate their homes when they unknowingly bring lead dust home on their clothes.

Workers should wear protective clothing and dispose of it properly. The type of protective clothing and respiratory protection needed for workers can be determined by special monitoring equipment that measures the amount of lead in the air. Workers should also take showers and change into street clothes before leaving the worksite. Lead is absorbed through skin pores, as well as through inhalation, which makes it important for workers to remember to wash their hands before they eat or smoke.

Employers should monitor the blood-lead levels of exposed workers to ensure that they are receiving adequate protection and to help identify problems. Employees need to be aware of the dangers of lead. Some companies hold training sessions and weekly safety meetings to inform employees about lead and explain the monitoring devices. Industrial hygienists can help supervisors understand lab results so they can be explained to employees in easily understandable terms. Employees should understand that lead poisoning is preventable.

Remove lead safely

Recommended techniques to reduce exposure to lead-based paint during removal or replacement include the use of power tools with high-efficiency particulate air vacuums, vacuum blasting, water blasting or chemical stripping. Because lead-based paint debris is considered a hazardous waste, you must handle and dispose of it according to federal, state or local regulations.

Regardless of the technique chosen, workers should be able to perform the job safely if companies follow OSHA regulations. The OSHA standard requires workers to receive training on the hazard of lead exposure, know how to perform their work safely, and have adequate protective clothing and equipment for abatement, disposal and cleanup.

Decontaminating workers

Some companies that work with lead have their workers and supervisors trained (and retrained) on lead hazards. They also give employees periodic physicals to check their blood-lead levels and pulmonary function tests to see if they are capable of wearing respirators. On some jobsites, companies that work with lead have a decontamination station or trailer with washing and shower facilities.

In addition, some companies require workers to change into special clothes that are kept in a decontamination trailer, and the employees are given Tyvek suits to wear over their clothes. If workers go off the job for any reason, they have to shower first and leave their work clothes and shoes in the decontamination trailer. This helps to prevent workers from tracking lead dust into their vehicles and taking it home. On break time, employees are vacuumed off with a vacuum that uses a HEPA filter before they go into the decontamination trailer. Workers must also wash their hands thoroughly.

Attack lead hazards before lead attacks you

OSHA recommends a three-pronged attack on lead hazards which includes safe work practices (like the decontamination procedures listed above); engineering controls (mechanical and local exhaust ventilation, shrouded tools, and wetting agents to keep lead-contaminated debris from becoming airborne); and personal protective equipment, including supplemental respirator use.

Workers and supervisors alike need to know the health effects of lead and the safe work practices and procedures that need to be followed. Otherwise, lead can be a silent killer.