Lead Safety Talk

WHAT'S AT STAKE?

Lead exposure is a serious issue that many workers face every day. Lead is common in a wide range of materials including paints and other coatings, lead mortars, and base metals, which may be welded on or abrasive blasted.

Lead occurs naturally, but much of its presence in the environment stems from its historic use in paint and gasoline and from ongoing or historic mining and commercial operations. Lead is found in abundance in our environment and because of this it is traceable in most people's bodies today.

WHAT'S THE DANGER?

You can be exposed to lead in a variety of ways:

- Breathing workplace air (lead smelting, refining and manufacturing industries)
- Eating lead-based paint chips
- Drinking water that comes from lead pipes or soldered fittings
- Breathing or ingesting contaminated soil, dust, air, or water near waste sites
- Breathing tobacco smoke
- Eating contaminated food grown on soil containing lead or eating food covered with lead containing dust
- Lead can be inhaled or swallowed and once inside the body tends to remain in tissue and organs.

Construction Industry

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.

Specific hazardous worksite practices in construction trades

- Renovating or demolishing structures that have lead – painted surfaces.
- Removing lead-based paint or spray painting with lead-based paint.
- Sandblasting steel structures that are painted with lead.
- Grinding, cutting, or torching metal surfaces that are painted with lead.
- Welding, cutting, or removing pipes, joints, or ductwork that contain lead or are painted with lead.
- Lead soldering.
- Cutting or stripping lead-sheathed cable.
- Cleaning up sites where there is lead dust

Exposure Hazards

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.

HOW TO PROTECT YOURSELF

A. Employers

AIR Sampling
Employers of job sites that might contain lead are required by Cal/OSHA to recognize the potential hazard. For example, painted surfaces must be presumed to contain lead until all layers of the

paint are sampled and analyzed. The detection of any amount of lead in the paint will trigger numerous requirements, even for common tasks such as drywall demolition, manual paint scraping, and manual paint sanding. The employer is required to conduct air sampling to determine the exposure to lead during these tasks and during other tasks that could result in lead exposure. Until actual exposures are determined, workers are required to wear respirators that are appropriate to the task.

Blood – Lead Levels
Employers should monitor the blood-lead levels of exposed workers to ensure that they are receiving adequate protection and to help identify problems. 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 understand- able terms.

Decontamination Techniques
Some companies that work with lead have their workers and supervisors trained (and retrained) on lead hazards. On some jobsites, companies that work with lead have a decontamination station or trailer with washing and shower facilities.

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.

B. THREE – Pronged Protocol

OSHA recommends a three-pronged attack on lead hazards which includes **Safe Work Practices** like decontamination procedures, **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 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.

C. Worker Prevention / Precautions

Training
All workers who may be exposed to lead must be trained in the hazards of lead. The results of air sampling are used to determine if workers are exposed to lead above the action level (AL) of 30 micrograms per cubic meter of air or above the permissible exposure limit (PEL) of 50 micrograms of lead per cubic meter of air, averaged over an 8-hour shift. Exposures above the AL or PEL will trigger additional requirements including engineering controls, proper housekeeping, washing facilities for hand and face washing, additional worker training, respiratory protection, medical monitoring, and additional air sampling. The employer must have a written compliance plan.

Protective Clothing / Hygiene
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.

Education / Knowledge
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.

FINAL WORD

It is important to understand where lead is found in our environment and the health effects related to overexposure. Often times many people develop an illness, but it is misdiagnosed by a doctor or disregarded by the individual altogether. If you suspect you or a loved one is suffering from lead poisoning talk with your doctor. Blood tests are available that can determine the amount of lead in a person’s blood.