Lead In Construction Meeting Kit

In the construction industry, lead exposure is a serious issue that many workers face every day. Lead exposure can occur during a variety of job activities. 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 presents a potentially serious occupational health hazard when the lead-containing particulates become airborne.

HEALTH HAZARDS OF LEAD EXPOSURE

Pure lead (Pb) is a heavy metal at room temperature and pressure. A basic chemical element, it can combine with various other substances to form numerous lead compounds.

Lead can damage the central nervous system, cardiovascular system, reproductive system, hematological system, and kidneys. When absorbed into the body in high enough doses, lead can be toxic.

Workers’ lead exposure can harm their children’s development.

Short-term (acute) overexposure—as short as days—can cause acute encephalopathy, a condition affecting the brain that develops quickly into seizures, coma, and death from cardiorespiratory arrest.

Extended, long-term (chronic) overexposure can result in severe damage to the central nervous system, particularly the brain. It can also damage the blood-forming, urinary, and reproductive systems.

Lead may negatively affect the blood system, nervous system, kidneys, and reproductive organs. A worker who is exposed to lead above the action level must have a blood test to determine the amount of lead in the blood. If the blood test results indicate that the worker has been overexposed to lead, then the worker must be removed from working with lead.

Workers who desire medical advice about reproductive issues related to lead should contact qualified medical personnel to arrange for a job evaluation and medical follow-up—particularly if they are pregnant or actively seeking to have a child. Workers exposed to lead who have concerns about reproductive issues must make medical examinations and consultations available.

CONSTRUCTION WORKERS AND LEAD EXPOSURE – How Lead is Used

In construction, lead is used frequently for roofs, cornices, tank linings, and electrical conduits. In plumbing, soft solder, used chiefly for soldering tinplate and copper pipe joints, is an alloy of lead and tin. Soft solder has been banned for many uses in the United States.

The Consumer Product Safety Commission bans the use of lead-based paint in residences. Because lead-based paint inhibits the rusting and corrosion of iron and steel, however, lead continues to be used on bridges, railways, ships, lighthouses, and other steel structures, although substitute coatings are available.

Construction projects vary in their scope and potential for exposing workers to lead and other hazards. Projects such as removing paint from a few interior residential doors may involve limited exposure. Other projects, however, may involve removing or stripping substantial quantities of lead-based paints on large bridges and other structures.

COMMON JOBS ON A CONSTRUCTION SITE THAT MIGHT EXPOSE A WORKER TO LEAD EXPOSURE

- 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.

VULNERABLE/CONSTRUCTION WORKERS

Workers potentially at risk for lead exposure include those involved in iron work; demolition work; painting; lead-based paint abatement; plumbing; heating and air conditioning maintenance and repair; electrical work; and carpentry, renovation, and remodeling work. Plumbers, welders, and painters are among those workers most exposed to lead. Significant lead exposures also can arise from removing paint from surfaces previously coated with lead-based paint such as bridges, residences being renovated, and structures being demolished or salvaged. With the increase in highway work, bridge repair, residential lead abatement, and residential remodeling, the potential for exposure to lead-based paint has become more common.

Workers at the highest risk of lead exposure are those involved in:

- Abrasive blasting
- Welding, cutting, and burning on steel structures.

BEST GENERAL LEAD SAFETY PRACTICES

- Use safe work practices such as wetting down paints and coatings to keep dust out of the air.
- Change clothes and wash up before eating, drinking, or smoking. Eat, drink, and smoke only in clean areas.
- Use personal protective equipment (PPE) like gloves, special clothing, and a respirator.
- Make sure the respirator fits and is worn and maintained properly.
- Change clothes and wash up before going home. Lead dust on clothes or in the car could expose the family to lead. Children are more susceptible to lead than adults.

FINAL WORD

Workers are exposed to a variety of hazardous substances on construction sites. One such hazard is lead, commonly used in pipes, paint, and other commonly used construction materials. Although lead is extremely useful, it is also highly toxic, with the odds of adverse health effects increasing with the duration of exposure.