



fast facts

advancing safety, health, and workplace rights in the legislative branch

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Lead - Be Aware and Beware

Lead (Pb) is a bluish-gray metal found in nature. Because it is chemically similar to calcium, it is readily absorbed by the body. Once in the body, it can be stored in bones and other tissue for as long as 30 years. Therefore, small doses of lead over a long period can pose a risk to a person's health.

Legislative branch employees can be exposed to lead when they contact it, work with products that contain it, or work at places where it can be ingested via contaminated hands or the dust becomes airborne. Typical products that contain



Figure 1: Fans used for cooling can cause lead paint particles to be airborne and inhaled.

lead are paints and sealants, particularly those made before 1978. Exposures can also occur when working with brass, solder, caulk, and other materials.

Employees who perform sawing, sanding and other mechanical processes on lead



Figure 2: While top paint coats may not contain lead, under layers may have high lead content.

containing products can be exposed to airborne lead dust. Because lead melts at a relatively low temperature, it can be easily heated until it emits tiny particles called fumes. Fumes can be generated by welding and torch cutting. They can even be produced if a heat gun is improperly used during paint removal.

The Occupational Safety and Health Administration (OSHA) requires that local exhaust ventilation, wet methods, or other feasible practices be used to limit the inhalation of lead fumes and dusts.



Figure 3: Removal or encapsulation is necessary when extreme lead paint flaking occurs.

When engineering and work practices are not effective, employees must wear the appropriate respirators.

Legislative branch employees who do not perform facility repair should be aware of situations that might involve lead. A common source of lead is from paint peeling from walls, windows, ceilings or other surfaces.

If you notice paint has peeled or contaminated other surfaces, notify someone who can determine whether the particles contain lead. A sample might be sent to a laboratory to test for lead. Unless a test shows that these particles do not contain lead, keep people away from contaminated surfaces and do not allow fans or other devices to "blow" the particles into the air.

Another situation to be aware of is where nearby housekeeping, repair or construction work is done on surfaces that might involve lead paint. The following regulations apply to workers exposed to lead: 1) 29 CFR §1910.1025 for General Industry, and 2) 29 CFR §1926.62 for construction. OSHA has strict requirements for housekeeping of surfaces contaminated with lead.

- Vacuum cleaners must have high efficiency (HEPA) filters.

- Compressed air may not be used unless it is connected to an exhaust hood that “captures” the contaminated stream of air.
- Shoveling, sweeping, and brushing may be used only if other methods have been tried and have been shown to be ineffective.

Hygiene is very important where lead contacts the skin. Lead does not readily dissolve in water, so it can be difficult to wash away. Very tiny particles of lead can remain on the hands and be transferred to food or chewing gum. Lead from the contaminated item can then be ingested, which increases the amount of lead that accumulates in the body.

Most lead circulates in the blood for only a few days after exposure; therefore, the timing of blood tests is very important. Absorbed lead is distributed through the blood and most of it is deposited in the bones. Some lead is also deposited in soft body tissues and organs, including the nerves and the brain. Because the kidneys limit excretion of calcium and lead, lead can build up in the body over many years.

Acute over-exposures can quickly result in seizures, coma, and even death. Lesser, more common poisonings result in flu-like symptoms, which often fail to be correctly diagnosed. Long-term exposures can damage the nervous system, impacting coordination and behavior.

Exposure can have serious effects on the reproductive function in both men and women. Lead can pass through the placental barrier to a developing embryo or fetus. Additional effects include digestive symptoms, kidney damage, high blood pressure, and anemia. Some groups, such as the Department of Health and Human Services and the International Agency for Research on Cancer, have stated that it is possible that lead can cause cancer.

The keys to reducing the risks due to ingesting lead or breathing lead particles are to identify lead paints and other lead contamination, keep surfaces free of lead contamination, and work with lead using the appropriate methods.

fast stats

OSHA Standards to Reference

- 29CFR § 1910.1025
- 29CFR § 1926.62

Agencies to Reference for Information

- Occupational Safety and Health Administration (OSHA)
- Environmental Protection Agency (EPA)
- Department of Health and Human Services (DHHS)
- The Centers for Disease Control (CDC)
- The National Institute for Occupational Safety and Health (NIOSH)



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