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Division of Occupational Safety and Health
Cal/OSHA Consultation Services
Research and Education Unit

Lead in Construction

T8 CCR Section [1532.1](#) covers the requirements on lead safety in construction, and makes employers responsible for complying with those requirements. Employers can reduce the hazard from lead in construction by meeting these requirements and following industry best practices.

Why employers need to be concerned?

- Lead is highly toxic and it can cause damage to brain, kidney, reproductive system, etc.
- Lead poisoning occurs through ingestion or inhalation even at a very low level of exposure.
- The risk to families, especially children, from take-home lead, carried on employees' bodies, shoes or clothing is great.

Benefits of controlling lead exposure

Consider the alternatives to failing to protect your employees from lead exposure: fines up to \$70,000 per violation, medical removal payments to workers with high blood lead levels, and costly job shutdowns. Some companies find that following the lead exposure regulations increases their business since clients want jobs that are safe for both workers and the environment.

What do I need to do to protect my employees from lead poisoning?

Assess lead exposure

Lead can be present in a wide range of materials including paints and other coatings, lead mortars, and base metals to be welded on or treated with abrasive blasting.

- Look at the age of the building or structure, the presence of coatings and other materials that may contain lead.
- Ask the property owner for relevant information.
- Also check the MSDS' of the materials in use to see if they contain lead.

Send samples of materials to a laboratory for lead analysis. Laboratories accredited by the U.S. EPA National Lead Laboratory Accreditation Program are listed at www.epa.gov/lead/pubs/nllap.htm. Testing methods for lead must meet requirements of Title 8 Section [1532.1\(d\)\(9\)](#).

Regularly assess the exposure level

Employers must assess the amounts of lead breathed by workers on a regular basis for each task as per Section [1532.1\(d\)](#). This is usually done by employee breathing-zone air sampling. Air sampling results are used to determine the protective measures needed as well as the type of respirator that must be worn for protection.

Have a written compliance program

Prior to starting the job, you shall establish and implement a written compliance program as per [1532.1\(e\)](#). In addition, you need to provide a written Pre-Job Notification to the nearest Cal/OSHA office within 24 hours of start of the work. The notification can also be made online at <http://www.dir.ca.gov/dosh/Permits.html>. See Section [1532.1\(p\)](#) for details on required information and types of jobs covered.

Reduce and maintain low lead level

On all construction jobs where lead is present, the employer should reduce and maintain lead levels as low as possible by:

- **Housekeeping.** Lead dust on surfaces, especially in eating areas, must be controlled by HEPA vacuuming, wet clean-up, or other effective methods.
- **Hand and face washing.** Workers must have washing facilities with soap and clean water.
- **Training.** Workers must receive training on lead hazards and how to protect themselves including:
 - Requirements of Section [1532.1](#)
 - Nature of the operations – scraping, demolition etc.
 - Respiratory protection
 - Medical surveillance and removal
 - Engineering controls—vacuum with HEPA filter, etc.
 - Good work practices – eat in area free of lead, etc.
 - Let employees know of their rights to their records
 - Notify employees in writing of the blood-lead test results within 5 days of receiving the results.
- **Using proper respirators.** For certain highly hazardous tasks, called trigger tasks, special protective measures must be taken—including specified respirators—until the employer determines that worker airborne exposures to lead are below levels specified in Section [1532.1](#):

Continued in next page

Contacting Cal/OSHA Consultation Service

Consultation Programs:

<http://www.dir.ca.gov/dosh/consultation.html>

Toll-free Number: 1-800-963-9424

Publications: <http://www.dir.ca.gov/dosh/puborder.asp>

eTools: <http://www.dir.ca.gov/dosh/etools/etools.htm>

Onsite Assistance Program Area Offices

Central Valley: 559-454-1295 San Diego/Imperial: 619-767-2060
No. California: 916 263-0704 San Bernardino: 909-383-4567
SF/Bay Area: 510-622-2891 San Fernando Valley: 818-901-5754
Santa Fe Springs/LA/Orange: 714-562-5525

Note: The information provided is not meant to be either a substitute for or legal interpretation of the occupational safety and health regulations. Readers are cautioned to refer directly to Title 8 of the California Code of Regulations for detailed information regarding the regulation's scope, specifications, and exceptions and for other requirements that may be applicable to their operations.

➤ Level 1 trigger tasks

Any of the following with lead-containing coatings or materials: spray painting, manual demolition, manual scraping or sanding, use of heat gun, power tool cleaning with dust collection system.

Minimum required respirator: half-mask respirator with N-100, R-100 or P-100 filters.

➤ Level 2 trigger tasks

Any of the following with lead-containing coatings or materials: using lead-containing mortar, lead burning, rivet busting, power tool cleaning without dust collection system, clean-up activities using dry expendable abrasives, abrasive blasting enclosure movement or removal.

Minimum required respirator: air-supplied hood or helmet, or loose fitting hood or helmet powered air purifying respirator with N-100, R-100 or P-100 filters.

➤ Level 3 trigger tasks

Abrasive blasting, welding, cutting, or torch burning on structures where lead-containing coatings or materials are present.

Minimum required respirator: half-mask supplied air respirator operated in a positive pressure mode.

The Pre-Job Notification is required for all jobs involving trigger tasks.

• **Providing interim protective measures**

Followings are the interim protective measures required for all trigger tasks until worker airborne exposures are shown to be below levels specified in Section [1532.1](#):

- Respirators, protective equipment and clothing
- Areas for clothes changing and hand washing
- Blood test for lead and zinc protoporphyrin (ZPP)
- Basic lead hazard, respirator, and safety training

- **Posting warning signs.** Section [1532.1\(i\)\(6\)](#) requires regulated areas with warning signs for all trigger tasks and any other tasks that may reasonably cause hazardous lead exposure at or above the Permissible Exposure Limit (PEL).

• **Using special measures for exposures above PEL.**

When air sampling shows employee exposures above the PEL from any operation, the following controls are required in addition to those for the trigger tasks:

- Provide respirator protection as per [1532.1\(f\)](#)
- Provide protective work clothing as per [1532.1\(g\)](#)
- Provide changing and eating areas, and hand washing and showering facilities as per [1532.1\(i\)](#)
- Provide medical monitoring as per [1532.1\(j\)](#)
- Provide medical removal protection as per [1532.1\(k\)](#)
- Employee training as per [1532.1\(l\)](#)

- **Maintaining certification.** On jobs at residential and public access buildings, workers exposed to lead above the PEL- and their supervisors - must receive state approved training and be certified by the California Dept. of Public Health Services (CDPH).

Information on lead worker certification:

Phone: **800-597-LEAD**

Web: <http://www.cdph.ca.gov/programs/CLPPB/>

Where can I get help?

The Cal/OSHA Consultation Service helps employers at no cost. Employers can request an industrial hygienist to come to a construction job site, show how air sampling is done and assist in employee training. The Consultation Service is independent of Cal/OSHA's Enforcement Unit.

Frequently Asked Questions

Q. Before starting work on a job that involves disturbance of paint or other coatings, am I required to have a sample of the paint analyzed for lead content?

A. This is the best way to begin assessing the lead hazard at the jobsite. While not specifically required by the Cal/OSHA regulation, material sampling—combined with knowledge of the tasks being done—is the best indicator of the chance of high airborne lead levels, and can help guide the air sampling and exposure control efforts and the choice of required respirators.

Q. If I'm already doing air monitoring and protecting workers with respirators during tasks with high exposures, why do I also need to do blood lead and ZPP monitoring?

A. Blood lead and ZPP monitoring are tools that help assess workers' total exposure to lead—including through ingestion, unmonitored operations, and lead contamination in the vehicle and home. It is the most important benchmark for answering the question: "Am I protecting my workers from the hazards of lead on the job?"

Q. What should my respirator program include?

A. Your respirator program must include respirator selection, medical evaluation, fit testing, and all other required elements as per Section [5144](#).

Q. How do I get started with a lead medical monitoring program and where do I find a physician to do this?

A. The Department of Public Health Occupational Lead Poisoning Prevention Program listed below can help you get started with your lead compliance program.

Resources

T8 CCR1532.1 http://www.dir.ca.gov/title8/1532_1.html

CDPH, Occupational Lead Poisoning Prevention Program
Website: www.cdph.ca.gov/programs/olppp
CA Toll Free: 1(866) 627-1587; Out of State: (510) 620-5740

Painting and Decorating Contractors of America
Website: www.pdca.org Phone: 703-383-0800

SSPC: Society for Protective Coatings
Website: www.sspc.org Phone: 412-281-2331

US EPA: Lead in Paint, Dust, and Soil
Website: www.epa.gov/opptintr/lead Phone: 1(800) 424-LEAD

OSHA: Lead in Construction
<http://www.osha.gov/Publications/osha3142.pdf>
http://www.osha.gov/OshDoc/data_Hurricane_Facts/lead_in_const_ruction.pdf

http://www.osha.gov/OshDoc/data_Hurricane_Facts/lead_hazards_fs.pdf