

**Cal/OSHA CONSTRUCTION SAFETY ORDERS, LEAD**  
**SECTION 1532.1, amended May 6, 2014**  
**Title 8 California Code of Regulations**  
**CA DEPT OF PUBLIC HEALTH PROPOSED REVISIONS – APRIL 2011**  
Occupational Lead Poisoning Prevention Program  
California Department of Public Health

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**Sec. 1532.1. Lead**

**(a) Scope.**

This section applies to all construction work where an employee may be occupationally exposed to lead. All construction work excluded from coverage in the general industry standard for lead by section 5198(a)(2) is covered by this standard. Construction work is defined as work for construction, alteration and/or repair, including painting and decorating. It includes but is not limited to the following:

- (1) Demolition or salvage of structures where lead or materials containing lead are present;
- (2) Removal or encapsulation of materials containing lead;
- (3) New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- (4) Installation of products containing lead;
- (5) Lead contamination/emergency cleanup;
- (6) Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed, and
- (7) Maintenance operations associated with the construction activities described in this subsection.

**(b) Definitions.**

**Action level** means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (~~xx30~~  $\mu\text{g}/\text{m}^3$ ) calculated as an 8-hour time-weighted average (TWA).

**Altered or disturbed** means subjected to a process that may result in the release of dust, mist, fume, or other particles.

**Assigned Protection Factor.** The assigned protection factor (APF) means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by Title 8, Section 5144, Respiratory Protection.

**Chief** means the Chief of the Division of Occupational Safety and Health or designee.

**Containment** means a system, process, or barrier used to contain lead hazards inside a work area such as described in "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, Chapter 8, "Containment and Barrier Systems," Table 8.1, Table 8.2, and Table 8.3, or "Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations," Society for Protective Coatings, Technology Guide 6, October 1, 2004.

**Employee exposure** means the exposure to airborne lead that would occur if the employee were not using a respirator.

**High efficiency particulate air (HEPA) filter** means a filter that is at least 99.97 percent efficient in removing mono dispersed particles of 0.3 micrometers in diameter.

**Interactive/participatory training methods.** Instruction which consists of active participation of the employees, such as brainstorming, hands-on training, demonstration and practice, small group problem-solving, learning games, discussions, risk mapping, field visits, walk-throughs, problem posing, group work assignments, question-and-answer periods, skits, or role-playing sessions. Lecture is not considered an interactive/participatory training method.

**Lead** means metallic lead, all inorganic lead com-

**Comment [PC1]:** OLPPP has used "xx" throughout the document as a placeholder until numeric values are derived based on the work of OEHHA.

pounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

Lead containing paint or coating. A paint or coating with a lead content of 0.06% or greater. A paint or coating affixed to a component in or on a residential structure constructed prior to January 1, 1978 is assumed to be a lead containing paint or coating unless tested and found to have a lead content less than 0.06%.

Lead containing material. Any material, other than a paint or coating, with a lead content of 0.5% or greater.

NIOSH means the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, or designee.

Physician or other licensed health care professional (PLHCP) is an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required by this section.

**Supervisor** means one who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them. Supervisors shall be trained, as required by this section, and, when required, be certified consistent with section (l)(3).

**(c) Permissible exposure limit.**

- (1) The employer shall assure that no employee is exposed to lead at concentrations greater than ~~fifty-xx~~ micrograms per cubic meter of air (~~50-xx~~ µg/m<sup>3</sup>) averaged over an 8-hour period.
- (2) If an employee is exposed to lead for more than 8 hours in any work day the employees' allowable exposure, as a time-weighted average (TWA) for that day, shall be reduced according to the following formula:

Allowable employee exposure  
(in µg/m<sup>3</sup>) = 400 divided by  
hours worked in the day.

- (3) When respirators are used to limit employee exposure as required under subsection (c) and all the requirements of subsections (e)(1) and (f) have been met, employee exposure may be considered to be at the level provided by the protection factor

of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.

**(d) Exposure assessment.**

- (1) General.
  - (A) Each employer who has a workplace or operation covered by this standard shall initially determine if any employee may be exposed to lead at or above the action level.
  - (B) For the purposes of subsection (d), employee exposure is that exposure which would occur if the employee were not using a respirator.
  - (C) With the exception of monitoring under subsection (d)(3), where monitoring is required under this section, the employer shall collect personal samples representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level.
  - (D) Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.

**(2) Protection of employees during assessment of exposure.**

- (A) With respect to the lead related tasks listed in subsection (d)(2)(A), where lead is present, until the employer performs an employee exposure assessment as required in subsection (d) and documents that the employee performing any of the listed tasks is not exposed above the PEL, the employer shall treat the employee as if the employee were exposed above the PEL, and not in excess of ~~ten (10)-x~~ times the PEL, and shall implement employee protective measures prescribed in subsection (d)(2)(E). The tasks covered by this requirement are called level 1 trigger tasks and are:
  1. Where lead containing coatings or paint are present: manual demolition of structures (e.g., dry wall), manual scraping, manual sanding, heat gun applications, and power tool cleaning, grinding, or sanding with HEPA dust collection systems;
  2. Spray painting with lead paint

**Comment [PC2]:** The multiple of the PEL will depend on the value of a new PEL.

(B) In addition, with regard to tasks not listed in subsection (d)(2)(A), where the employee has any reasons to believe that an employee performing the task may be exposed to lead in excess of the PEL, until the employer performs an employee exposure assessment as required by subsection (d) and documents that the employee's lead exposure is not above the PEL the employer shall treat the employee as if the employee were exposed above the PEL and shall implement employee protective measures prescribed in subsection (d)(2)(E).

(C) With respect to the tasks listed in this subsection (d)(2)(C), where lead is present, until the employer performs an employee exposure assessment as required in subsection (d), and documents that the employee performing any of the listed tasks is not exposed in excess of  $500 \mu\text{g}/\text{m}^3$ , the employer shall treat the employee as if the employee were exposed to lead in excess of  $500 \mu\text{g}/\text{m}^3$  and shall implement employee protective measures as prescribed in subsection (d)(2)(E). Where the employer does establish that the employee is exposed to levels of lead below  $500 \mu\text{g}/\text{m}^3$ , the employer may provide the exposed employee with the appropriate respirator prescribed for such use at such lower exposures, in accordance with Table 1 of this section. The tasks covered by this requirement are called level 2 trigger tasks and are:

1. Using lead containing mortar; lead burning
2. Where lead containing coatings or paint are present: rivet busting; power tool cleaning without dust collection systems; cleanup activities where dry expendable abrasives are used; and abrasive blasting enclosure movement and removal.

(D) With respect to the tasks listed in this subsection (d)(2)(D) of this section, where lead is present, until the employer performs an employee exposure assessment as required in subsection (d) and documents that the employee performing any of the listed tasks is not exposed to lead in excess of  $2,500 \mu\text{g}/\text{m}^3$  (50 x PEL), the employer shall treat the employee as if the employee were exposed to lead in excess of  $2,500 \mu\text{g}/\text{m}^3$  and shall implement employee protective measures as prescribed in subsection (d)(2)(E). Where the employer does establish that the employee is

exposed to levels of lead below  $2,500 \mu\text{g}/\text{m}^3$ , the employer may provide the exposed employee with the appropriate respirator prescribed for use at such lower exposures, in accordance with Table I of this section. Interim protection as described in this subsection is required where lead containing coatings or paint are present on structures when performing these level 3 trigger tasks:

1. Abrasive blasting,
2. Welding,
3. Cutting, and
4. Torch burning.

(E) Until the employer performs an employee exposure assessment as required under subsection (d) and determines actual employee exposure, the employer shall provide to employees performing the tasks described in subsections (d)(2)(A), (d)(2)(B), (d)(2)(C) and (d)(2)(D) with interim protection as follows:

1. Appropriate respiratory protection in accordance with subsection (f).
2. Appropriate personal protective clothing and equipment in accordance with subsection (g).
3. Change areas in accordance with subsection (i)(23).
4. Hand washing facilities in accordance with subsection (i)(56).
5. Biological monitoring in accordance with subsection (j)(1)(A), to consist of blood sampling and analysis for lead and zinc protoporphyrin levels, and
6. Training as required under subsection (l)(1)(A) regarding section 5194, Hazard Communication; training as required under subsection (l)(2)(C), regarding use of respirators; and training in accordance with section 1510, Safety Instruction for Employees.

(3) Basis of initial determination.

(A) Except as provided under subsections (d)(3)(C) and (d)(3)(D) the employer shall monitor employee exposures and shall base initial determinations on the employee exposure monitoring results and any of the following, relevant considerations:

**Comment [PC3]:** The multiple of the PEL will depend on the value of a new PEL.

1. Any information, observations, or calculations which would indicate employee exposure to lead;
  2. Any previous measurements of airborne lead; and
  3. Any employee complaints of symptoms which may be attributable to exposure to lead.
- (B) Monitoring for the initial determination where performed may be limited to a representative sample of the exposed employees who the employer reasonably believes are exposed to the greatest airborne concentrations of lead in the workplace.
- (C) Where the employer has previously monitored for lead exposures, and the data were obtained within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations, the employer may rely on such earlier monitoring results to satisfy the requirements of subsections (d)(3)(A) and (d)(6) if the sampling and analytical methods meet the accuracy and confidence levels of subsection (d)(9).
- (D) Where the employer has objective data, demonstrating that a particular product or material containing lead or a specific process, operation or activity involving lead cannot result in employee exposure to lead at or above the action level during processing, use, or handling, the employer may rely upon such data instead of implementing initial monitoring.
1. The employer shall establish and maintain an accurate record documenting the nature and relevance of objective data as specified in subsection (n)(~~4~~)(~~5~~), where used in assessing employee exposure in lieu of exposure monitoring.
  2. Objective data, as described in subsection (d)(3)(D), is not permitted to be used for exposure assessment in connection with subsection (d)(2).
  3. Objective data for surface coatings and materials that contain lead shall meet the following methodology:
    - a. Lead analysis shall be performed for each unique surface coating and material that may constitute a health hazard to employees engaged in activities within the scope of this section and;
    - b. Analysis of surface coatings and materials shall be performed in a manner that meets the requirements of subsection (d)(9) and shall be recorded, as described in subsection (n)(~~4~~)(~~5~~).
- (4) Positive initial determination and initial monitoring.
- (A) Where a determination conducted under subsections (d)(1), (2) and (3) shows the possibility of any employee exposure at or above the action level the employer shall conduct monitoring which is representative of the exposure for each employee in the workplace who is exposed to lead.
- (B) Where the employer has previously monitored for lead exposure, and the data were obtained within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations, the employer may rely on such earlier monitoring results to satisfy the requirements of subsection (d)(4)(A) if the sampling and analytical methods meet the accuracy and confidence levels of subsection (d)(9).
- (C) Objective data for an initial assessment that demonstrate surface coating or material that contain lead at concentrations equal to or exceeding 0.06% lead dry weight (600 ppm) demonstrate the presence of lead surface coatings or material that constitute a health hazard to employees engaged in lead-related construction work. The lead concentration of paint or materials is based on the lead content in the nonvolatile components of the surface coating or material such as paint. Objective data as described in this subsection are not permitted to be used in lieu of exposure assessment in connection with lead-related tasks listed in subsection (d)(2).
- (5) Negative initial determination.

(A) Where a determination, conducted under subsections (d)(1), (2), and (3) is made that no employee is exposed to airborne concentrations of lead at or above the action level the employer shall make a written record of such determination. The record shall include at least the information specified in subsection (d)(3)(A) of this section and shall also include the date of determination, location within the work site, and the name and ~~social security number~~ employee identification number of each employee monitored.

(B) Objective data that meet the requirements of subsection (n)(4)(5) for an initial assessment that demonstrate surface coating or material that contain lead at concentrations less than 0.06% lead dry weight (600 ppm) are sufficient to establish a negative determination. The lead concentration of surface coatings or materials is based on the lead content in the nonvolatile components of the surface coating or material such as paint. Objective data as described in this subsection are not permitted to be used in lieu of exposure assessment in connection with lead-related tasks listed in subsection (d)(2).

(6) Frequency.

(A) If the initial determination reveals employee exposure to be below the action level further exposure determination need not be repeated except as otherwise provided in subsection (d)(7).

(B) If the initial determination or subsequent determination reveals employee exposure to be at or above the action level but at or below the PEL the employer shall perform monitoring in accordance with this subsection at least every 6 months. The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are below the action level at which time the employer may discontinue monitoring for that employee except as otherwise provided in subsection (d)(7).

(C) If the initial determination reveals that employee exposure is above the PEL the employer shall perform monitoring quarterly. The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are at or below the PEL but at or above the action level at which time the employer shall repeat monitoring for that

employee at the frequency specified in subsection (d)(6)(B), except as otherwise provided in subsection (d)(7). The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are below the action level at which time the employer may discontinue monitoring for that employee except as otherwise provided in subsection (d)(7).

(7) Additional exposure assessments. Whenever there has been a change of equipment, process, control, personnel or a new task has been initiated that may result in additional employees being exposed to lead at or above the action level or may result in employees already exposed at or above the action level being exposed above the PEL, the employer shall conduct additional monitoring in accordance with this subsection.

(8) Employee notification.

(A) Within 5 working days after completion of the exposure assessment the employer shall notify each employee in writing of the results which represent that employee's exposure.

(B) Whenever the results indicate that the representative employee exposure, without regard to respirators, is at or above the PEL the employer shall include in the written notice a statement that the employees exposure was at or above that level and a description of the corrective action taken or to be taken to reduce exposure to below that level.

(9) "Accuracy of measurement". The employer shall use a method of monitoring and analysis which has an accuracy (to a confidence level of 95%) of not less than plus or minus ~~25-20~~ percent for airborne concentrations of lead equal to or greater than 30 µg/m<sup>3</sup>. Methods for the determination of lead concentrations of surface coatings and material shall be determined by methods which have an accuracy (to a confidence level of 95 percent) of not less than plus or minus 25 percent at 0.06% lead dry weight (600 ppm).

(e) Methods of compliance.

(1) Engineering and work practice controls.

(A) General. The employer shall implement engineering and work practice controls, including administrative controls, to reduce and maintain employee exposure to lead to or below the permissible exposure limit ~~to the~~

**Comment [PC4]:** Suggest that SSN# be deleted and substituted with "employee identification number". Use of SSN# in this way is not advisable and may no longer be allowable.

extent that such controls are feasible unless the employer can demonstrate that such controls are not feasible. Wherever all feasible engineering and work practices controls that can be instituted are not sufficient to reduce employee exposure to or below the permissible exposure limit prescribed in subsection (c), the employer shall nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them by the use of respiratory protection that complies with the requirements of subsection (f).

(B) Specific. At a minimum, the employer shall implement the following work practice controls:

1. Post signs defining the regulated work area as required by subsection (m) and identifying all areas where lead is altered or disturbed.
2. Perform work using local exhaust ventilation. The employer shall use shrouded power tools with HEPA vacuum attachment, and equipment and local exhaust ventilation equipped with HEPA dust filters or dust collection systems wherever feasible.
3. Isolate the work area for the duration of the work disturbing lead, lead-containing paint or coatings, or lead-containing materials, including cleanup activities. The employer shall use containment or barrier systems to prevent the release of dust, chips, soil or water outside the regulated area, containment, or barrier. Negative pressure may be needed to contain dust and debris.
4. Use wet work methods or other dust suppression methods wherever feasible to minimize dust generation.
5. Clean up all visible paint chips and visible dust wastes in accordance with subsection (h) prior to entry of other unprotected workers in the work area.
6. Use local exhaust ventilation for welding, brazing or cutting when lead is present as a base metal, flux, coating, plating or filler metal as required by 8CCR 1536.
7. Strip all metal surfaces covered with a lead-containing paint or coating for a distance of at least four inches from the area of heat application prior to welding, cutting or heating as required by 8CCR 1537.

(C) Prohibited work practices. The following work practices are prohibited for the purpose of removing a lead-containing paint or coating:

1. Heat guns operating above 1,100 degrees Fahrenheit, open-flame burning or torching.
  2. Acetylene or propane burning and torching.
- (2) Compliance program.
- (A) Prior to commencement of the job each employer shall establish and implement a written compliance program to achieve compliance with subsection (c).
- (B) Written plans for these compliance programs shall include at least the following:
1. A description of each activity in which lead is emitted; e.g. equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;
  2. A description of the specific means that will be employed to achieve compliance and, where engineering controls are required engineering plans and studies used to determine methods selected for controlling exposure to lead;
  3. A report of the technology considered in meeting the PEL;
  4. Air monitoring data which documents the source of lead emissions;
  5. A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;
  6. A work practice program which includes items required under subsections (g), (h) and (i) and incorporates other relevant work practices such as those specified in subsection (e)(5);
  7. An administrative control schedule required by subsection (e)(4), if applicable;
  8. A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and of regulated areas.

9. Other relevant information.

- (C) The compliance program shall provide for frequent and regular inspections of job sites, regulated areas, materials, and equipment to be made by a supervisor.
- (D) Written programs shall be submitted upon request to any affected employee or authorized employee representatives, to the Chief and NIOSH, and shall be available at the worksite for examination and copying by the Chief and NIOSH.
- (E) Written programs shall be revised and updated at least every 6 months to reflect the current status of the program.

(3) Mechanical ventilation. When ventilation is used to control lead exposure, the employer shall evaluate the mechanical performance of the system in controlling exposure as necessary to maintain its effectiveness.

(4) Administrative controls. If administrative controls are used as a means of reducing employees TWA exposure to lead, the employer shall establish and implement a job rotation schedule which includes:

- (A) Name or identification number of each affected employee;
- (B) Duration and exposure levels at each job or work station where each affected employee is located; and
- (C) Any other information which may be useful in assessing the reliability of administrative controls to reduce exposure to lead.

(5) The employer shall ensure that, to the extent relevant, employees follow good work practices such as described in Appendix B of this section.

**(f) Respiratory protection.**

(1) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

- (A) Periods when an employee's exposure to lead exceeds the PEL;
- (B) Work operations for which engineering controls and work practices are not sufficient to reduce exposures to or below the PEL;

- (C) Periods when an employee requests a respirator; and
- (D) Periods when respirators are required to provide interim protection for employees while they perform the operations specified in subsection (d)(2).

(2) Respirator program.

- (A) An employer must implement a respiratory protection program in accordance with section 5144 (b) (except (d)(1)(C)) through (m).
- (B) If an employee exhibits breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination in accordance with subsection (j)(3)(A)23. to determine if the employee can use a respirator while performing the required duties.

(3) Respirator selection.

- (A) The employer shall select, and provide to employees, the appropriate respirator or combination of respirators specified in Section 5144(d)(3)(A)1.
- (B) The employer shall provide a powered, air-purifying respirator in lieu of the respirator specified in Section 5144(d)(3)(A)1 whenever:
  - 1. An employee chooses to use this type of respirator; and
  - 2. This respirator will provide adequate protection to the employee.
- (C) The employer shall provide employees with a full facepiece respirator instead of a half mask respirator for protection against lead aerosols that may cause eye or skin irritation at the use concentrations.
- (D) The employer shall provide HEPA filters for powered and non-powered air-purifying respirators.

**(g) Protective work clothing and equipment.**

(1) Provision and use. Where an employee is performing level 1, 2, or 3 trigger tasks or is exposed to lead at or above the ALPEL without regard to the use of respirators, where employees are exposed to lead compounds which may cause skin or eye irritation (e.g., lead arsenate, lead azide), and as interim protection for employees

**Comment [PC5]:** 5144(b) is the definitions subsection of the standard. 5144 (c) is the subsection related to a respirator program. Is this an error in the standard that needs to be corrected?



performing tasks as specified in subsection (d)(2), the employer shall provide at no cost to the employee and assure that the employee uses appropriate protective work clothing and equipment that prevents contamination of the employee and the employee's garments such as, but not limited to:

- (A) Coveralls or similar full-body work clothing;
- (B) Gloves, hats, and shoes or disposable shoe coverlets; and
- (C) Face shields, vented goggles, or other appropriate protective equipment which complies with section 1516.

(2) Cleaning and replacement.

- (A) The employer shall provide the protective clothing required in subsection (g)(1) in a clean and dry condition at least weekly, and daily to employees who are doing a level 2 or 3 trigger task or whose exposure levels without regard to a respirator are over 200  $\mu\text{g}/\text{m}^3$  of lead as an 8-hour TWA at or above four (4) times the PEL.
- (B) The employer shall provide for the cleaning, laundering, and disposal of protective clothing and equipment required by subsection (g)(1).
- (C) The employer shall repair or replace required protective clothing and equipment as needed to maintain their effectiveness.
- (D) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change areas provided for that purpose as prescribed in subsection (i)(23).
- (E) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change area which prevents dispersion of lead outside the container.
- (F) The employer shall inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.
- (G) 1. The employer shall assure that the containers of contaminated protective clothing and equipment required by subsection (g)(2)(E) of this section are labeled as follows:

DANGER: CLOTHING AND EQUIPMENT CONTAMINATED WITH LEAD, MAY DAMAGE FERTILITY OR THE UNBORN CHILD. CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM. DO NOT EAT, DRINK OR SMOKE WHEN HANDLING. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

2. Prior to June 1, 2015, employers may include the following information on bags or containers of contaminated protective clothing and equipment required by subsection (g)(2)(E) in lieu of the labeling requirements in subsection (g)(2)(G)1. of this section:

Caution: Clothing contaminated with lead. Do not remove dust by blowing or shaking. Dispose of lead contaminated wash water in accordance with applicable local, state, or federal regulations.

- (H) The employer shall prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air.

**(h) Housekeeping.**

- (1) All work area surfaces shall be maintained as free as practicable of accumulations of lead.
- (2) Clean-up of floors and other surfaces where lead accumulates shall wherever possible, be cleaned by vacuuming or other methods that minimize the likelihood of lead becoming airborne.
- (3) Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.
- (4) Where vacuuming methods are selected, the vacuums shall be equipped with HEPA filters and used and emptied in a manner which minimizes the reentry of lead into the workplace.
- (5) Compressed air shall not be used to remove lead from any surface unless the compressed air is used in conjunction with a ventilation system designed to capture the airborne dust created by the compressed air.

(i) Hygiene facilities, practices and regulated areas.

(1) The employer shall assure that in areas where employees ~~are alter or disturb lead containing materials or a lead containing paint or coating exposed to lead above the PEL without regard to the use of respirators~~, food or beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied.

~~(2) The employer shall assure that employees who alter or disturb lead containing materials or a lead containing paint or coating wash their hands and face prior to eating, drinking, smoking, or applying cosmetics.~~

~~(23) Change areas.~~

(A) The employer shall provide clean change areas for employees who perform level 1, 2, or 3 trigger tasks or whose airborne exposure to lead is at or above the AL PEL, and as interim protection for employees performing tasks as specified in subsection (d)(2), without regard to the use of respirators.

(B) The employer shall assure that change areas are equipped with separate storage facilities for protective work clothing and equipment and for street clothes which prevent cross-contamination. Exception: Separate storage facilities are not required where clean protective clothing and equipment are provided on a daily basis.

(C) The employer shall assure that employees do not leave the workplace wearing any protective clothing or equipment that is required to be worn during the work shift.

~~(D) When change areas are required by section 1532.1 (i)(3)(A), the employer shall test surfaces at least weekly. The employer may use a colorimetric or quantitative method for lead tests~~

~~(E) When using a colorimetric method for lead testing, the employer shall use a method that is recognized by the U.S. Environmental Protection Agency (EPA) under the Lead Renovation, Repair and Painting (RRP) rule or NIOSH, to determine the presence of lead. When lead is detected, the employer shall clean the change areas until no lead is detected.~~

~~(F) When using a quantitative lead test method for wipe sampling of surfaces, dust shall be~~

collected using a NIOSH, ASTM, or Federal Occupational Safety and Health Administration (OSHA) method that is specific for lead. Wipe samples shall be sent to a National Lead Laboratory Accreditation Program (NLLAP)-accredited laboratory for analysis. The list of NLLAP laboratories can be found at <http://www.epa.gov/lead/> or by contacting EPA.

~~(34) Showers.~~

(A) The employer shall provide shower facilities, where feasible, for use by employees whose airborne exposure to lead is above the PEL.

(B) The employer shall assure, where shower facilities are available, that employees shower at the end of the work shift and shall provide an adequate supply of cleansing agents and towels for use by affected employees.

~~(45) Clean Eating Areas/facilities.~~

(A) The employer shall provide a lunchroom facilities or clean eating areas for employees who work in areas where lead containing materials or lead containing paint or coatings are altered or disturbed. ose airborne exposure to lead is above the PEL, without regard to the use of respirators.

(B) When a clean eating area is required under Section 1532.1(i)(5)(A), the employer shall assure that lunchroom facilities are as free as practicable from lead contamination and are readily accessible to employees test surfaces used for food preparation and for eating weekly. The employer may use a colorimetric indicator or quantitative method for lead tests.

~~(C) When using the colorimetric method for lead testing, the employer shall use a method that is recognized by the U.S. Environmental Protection Agency (EPA) under the Lead Renovation, Repair and Painting (RRP) rule or NIOSH, to determine the presence of lead.~~

~~(D) When using a colorimetric indicator method, the employer shall maintain surfaces used for food preparation and eating free of detectable levels of lead. When lead is detected, the employer shall clean the food preparation and eating surfaces until no lead is detected.~~

~~(E) When using a quantitative lead test method for wipe sampling of eating- and food preparation surfaces, dust shall be collected using a NIOSH,~~

ASTM, or Federal Occupational Safety and Health Administration (OSHA) method that is specific for lead. Wipe samples shall be sent to a National Lead Laboratory Accreditation Program (NLLAP)-accredited laboratory for analysis. The list of NLLAP laboratories can be found at <http://www.epa.gov/lead/> or by contacting EPA.

~~(F)~~ When using a quantitative lead test method, lead contamination on surfaces used for food preparation or consumption tested according to (i)(5)(E) shall not exceed xxx ug/foot<sup>2</sup>.

~~(C)~~ The employer shall assure that employees whose airborne exposure to lead is above the PEL, without regard to the use of a respirator, wash their hands and face prior to eating, drinking, smoking or applying cosmetics.

~~(D)~~ The employer shall assure that employees do not enter ~~lunchroom facilities or~~ eating or food preparation areas with protective work clothing or equipment unless surface lead dust has been removed by vacuuming, downdraft booth, or other cleaning method that limits dispersion of lead dust.

~~(56)~~ Hand washing-Washing Facilities.

(A) The employer shall provide adequate hand washing facilities for use by employees exposed to lead in accordance with section 1527.

(B) Where showers are not provided the employer shall assure that employees wash their hands and face at the end of the work-shift.

~~(67)~~ Regulated Area.

(A) Employers shall establish regulated areas, where feasible, for work areas where employees are exposed to lead at or above the PEL or performing the tasks described in subsection (d)(2).

(B) Regulated areas shall be posted with signs as described in subsection (m)(2).

(C) Employers shall restrict access to the regulated area to employees authorized by the supervisor, to representatives of affected employees, as described in subsection (o) and to persons authorized by the Chief or NIOSH.

(D) Each employee authorized to enter the regulated area shall be provided with and be

required to wear protective equipment required by subsections (f) and (g).

**(j) Medical surveillance.**

(1) General.

(A) The employer shall make available initial ~~medical surveillance blood lead level testing~~ to employees ~~occupationally exposed who work on any day to lead at or above the action level in an area where employees perform Level 1, 2, or 3 trigger tasks on lead-containing paint or coatings or lead-containing material, as defined in subsection (b), or who are exposed at or above the action level of xx ug/m<sup>3</sup>. Initial medical surveillance consists of biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels.~~

(B) The employer shall institute a medical surveillance program in accordance with subsections (j)(2) and (j)(3) ~~for all employees who are or may be exposed by the employer at or above the action level for more than 30 days in any consecutive 12 months, according to the following requirements:~~

1. For all employees who work in an area where employees perform Level 2 and/or level 3 trigger tasks on lead-containing paint or coatings or lead-containing materials as defined in subsection (b).

2. For all employees who work in an area where employees perform Level 1 trigger tasks on a lead containing paint or coating or lead containing material, as defined in subsection (b), for 8 hours or more within a 30 day period.

3. For all employees who may be exposed at or above the action level for more than 30 days in any consecutive 12 months.

4. Employees working in an area where employees perform Level 1 trigger tasks on a lead-containing paint or coating or lead containing material, as defined in subsection (b), for less than 8 hours within a 30 day period and where work practice controls as defined in (e) (1) (B) - (C) are adhered to shall be exempted from medical surveillance requirements.

(C) The employer shall assure that all medical examinations and procedures are performed

by or under the supervision of a licensed physician.

(D) The employer shall provide complete employee demographic information to the licensed health care provider who performs any services covered under Sections 1532.1- (j)(2) and (3). Demographic information includes employer name, employer address and phone number, employee name and date of birth, employee address, and employee phone number.

(DE) The employer shall make available the required medical surveillance including multiple physician review under subsection (j)(3)(C) without cost to employees and at a reasonable time and place.

(2) Biological monitoring.

(A) Blood lead ~~and ZPP~~-level sampling and analysis. The employer shall make available biological monitoring in the form of blood sampling and analysis for lead ~~and zinc protoporphyrin~~ levels to each employee covered under subsections (j)(1)(A) and (B) on the following schedule:

1. At least every month for the first 3 months of placement or upon a worker's change in task to higher exposure requiring an upgrade to a respirator with a greater assigned protection factor (as required by defined in section (b) by Section 5144(f) 3)(A), then every 6 monthsFor each employee covered under subsection (j)(1)(B), at least every 2 months for the first 6 months and every 6 months thereafter;

2. At least every three months For each employee covered under subsections (j)(1) (A) or (B) whose last blood sampling and analysis indicated a blood lead level at or above 410 µg/dL, but below 20 µg/dL, of whole blood at least every two months. This frequency shall continue until ~~two~~three consecutive blood samples and analyses taken at least four weeks apart indicate a blood lead level below 410 µg/dL; and

3. At least every four weeks for each employee whose last blood sampling and analysis indicated a blood lead level at or above 20 µg/dL of whole blood. This frequency shall continue until three consecutive blood samples and analysis taken at least four weeks apart indicate a blood lead level below 10 µg/dL of whole blood; and

34. For each employee who is removed from exposure to lead due to an elevated blood lead level at least every four weeks~~monthly~~ during the removal period.

(B) Follow-up blood sampling tests. Whenever the results of a blood lead level test indicate that an employee's blood lead level is at or above the numerical criterion for medical removal under subsection (k)(1)(A), the employer shall provide a second (follow-up) blood sampling test within two weeks after the employer receives the results of the first blood sampling test.

(C) Accuracy of blood lead level sampling and analysis. Blood lead level sampling and analysis provided pursuant to this section shall be analyzed by a laboratory that meets Federal OSHA accuracy requirements in blood lead proficiency testing (PT) and is on the OSHA List of Laboratories Approved for Blood Lead Analysis, have an accuracy (to a confidence level of 95 percent) within plus or minus 15 percent or 6 µg/dl, whichever is greater, and shall be conducted by a laboratory approved by OSHA.

(D) Provision of Employee Demographic Information to Analyzing Laboratory. The employer shall instruct the licensed health care provider ordering the blood lead level test to provide the analyzing laboratory with the employee demographic information per Section 1532.1 (j) (1) (D).

(DE) Employee notification.

1. Within five working days after the receipt of biological monitoring results, the employer shall notify each employee in writing of his or her blood lead level; and

2. The employer shall notify each employee whose blood lead level is at or above 40 µg/dl that the standard requires temporary medical removal with Medical Removal Protection benefits when an employee's blood lead level is at or above the numerical criterion for medical removal under subsection (k)(1)(A).

(3) Medical examinations and consultations.

(A) Frequency. The employer shall make available medical examinations and consultations to each employee covered under subsection (j)(1)(B) 1-3 on the following schedule:

~~1.~~ At least annually-Within four weeks for each employee for whom a blood sampling test ~~conducted at any time during the preceding 12 months~~ indicated a blood lead level at or above 420 µg/dL, unless that employee has had a medical exam and consultation within the preceding 12 months;

~~1-2.~~ Prior to assignment for each employee being assigned for the first time to an area where employees perform Level 2 or Level 3 trigger tasks on lead-containing paint or coatings or lead-containing materials, as defined in subsection (b) unless employer has provided an exam in the previous 12 months;

~~23.~~ As soon as possible, upon notification by an employee either that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice concerning the effects of current or past exposure to lead on the employee's ability to procreate a healthy child, that the employee is pregnant, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during use; and

~~34.~~ As medically appropriate for each employee either removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited pursuant to a final medical determination.

5. Annual blood pressure measurement and the brief questionnaire in Appendix C for each employee who has not had, within the preceding 12 months, an examination pursuant to subsection (j) (3) (A) 1-4 .

(B) Content. The content of medical examinations made available pursuant to subsections (j)(3)(A)~~23.~~ - ~~34.~~ shall be determined by an examining physician and, if requested by an employee, shall include pregnancy testing or laboratory evaluation of male fertility. Medical examinations made available pursuant to subsection (j)(3)(A)1 ~~-2.~~ shall include the following elements:

1. A detailed work history and a medical history, with particular attention to past lead exposure (occupational and non-occupational), personal habits (smoking, hygiene), and past gastrointestinal, hematologic, renal, cardiovascular, reproductive and neurological problems;

2. A thorough physical examination, with particular attention to ~~teeth, gums, the~~ hematologic, gastrointestinal, renal, cardiovascular, and neurological systems. Pulmonary status should be evaluated if respiratory protection will be used;

3. A blood pressure measurement;

4. A blood sample and analysis which determines:

- a. Blood lead level;
- b. Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral smear morphology;
- c. Zinc protoporphyrin;
- d. Blood urea nitrogen; and,
- e. Serum creatinine;

5. A routine urinalysis with microscopic examination; and

6. Any laboratory or other test relevant to lead exposure which the examining physician deems necessary by sound medical practice.

(C) Multiple physician review mechanism.

1. If the employer selects the initial physician who conducts any medical examination or consultation provided to an employee under this section, the employee may designate a second physician:

- a. To review any findings, determinations or recommendations of the initial physician; and
- b. To conduct such examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate this review.

2. The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician conducts a medical examination or consultation pursuant to this section. The employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing the following within fifteen (15) days after

receipt of the foregoing notification, or receipt of the initial physician's written opinion, whichever is later:

- a. The employee informing the employer that he or she intends to seek a second medical opinion, and
  - b. The employee initiating steps to make an appointment with a second physician.
3. If the findings, determinations or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall assure that efforts are made for the two physicians to resolve any disagreement.
4. If the two physicians have been unable to quickly resolve their disagreement, then the employer and the employee through their respective physicians shall designate a third physician:
- a. To review any findings, determinations or recommendations of the prior physicians; and
  - b. To conduct such examinations, consultations, laboratory tests and discussions with the prior physicians as the third physician deems necessary to resolve the disagreement of the prior physicians.
5. The employer shall act consistent with the findings, determinations and recommendations of the third physician, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three physicians.
- (D) Information provided to examining and consulting physicians.
1. The employer shall provide an initial physician conducting a medical examination or consultation under this section with the following information:
    - a. A copy of this regulation for lead including all Appendices;
    - b. A description of the affected employee's duties as they relate to the employee's exposure;
    - c. The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if applicable);
    - d. A description of any personal protective equipment used or to be used;
    - e. Prior blood lead determinations; and
    - f. All prior written medical opinions concerning the employee in the employer's possession or control.
  2. The employer shall provide the foregoing information to a second or third physician conducting a medical examination or consultation under this section upon request either by the second or third physician, or by the employee.
- (E) Written medical opinions.
1. The employer shall obtain and furnish the employee with a copy of a written medical opinion from each examining or consulting physician which contains only the following information:
    - a. The physician's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of material impairment of the employee's health from exposure to lead;
    - b. Any recommended special protective measures to be provided to the employee, or limitations to be placed upon the employee's exposure to lead;
    - c. Any recommended limitations upon the employee's use of respirators, including a determination of whether the employee can wear a powered air purifying respirator if a physician determines that the employee cannot wear a negative pressure respirator; and
    - d. The results of the blood lead determinations.
  2. The employer shall instruct each examining and consulting physician to:
    - a. Not reveal either in the written opinion or orally, or in any other means of communication with the employer, findings, including laboratory results, or

diagnoses unrelated to an employee's occupational exposure to lead; and

- b. Advise the employee of any medical condition, occupational or non-occupational, which dictates further medical examination or treatment.

- (F) Alternate physician determination mechanisms. The employer and an employee or authorized employee representative may agree upon the use of any alternate physician determination mechanism in lieu of the multiple physician review mechanism provided by subsection (j)(3)(C) so long as the alternate mechanism is as expeditious and protective as the requirements contained in this subsection.

(4) Chelation.

- (A) The employer shall assure that any person whom he/she retains, employs, supervises or controls does not engage in prophylactic chelation of any employee at any time.
- (B) If therapeutic or diagnostic chelation is to be performed by any person in subsection (j)(4)(A), the employer shall assure that it be done under the supervision of a licensed physician in a clinical setting with thorough and appropriate medical monitoring and that the employee is notified in writing prior to its occurrence.

**(k) Medical removal protection.**

(1) Temporary medical removal and return of an employee.

- (A) Temporary removal due to elevated blood lead level. The employer shall remove an employee from work in an area where employees are altering or disturbing lead or lead containing paint or coating, as defined in subsection (b) having an exposure to lead at or above the action level on each occasion that a periodic and a follow-up blood sampling test conducted pursuant to this section indicate that the employee's blood lead level is at or above 530 µg/dL of whole blood or on each occasion that the last two blood sampling tests conducted pursuant to subsections (j)(2)(A) indicate that the employee's blood lead level is at or above 20 µg/dL; and,
- (B) Temporary removal due to a final medical determination.

1. The employer shall remove an employee from work in an area where employees are altering or disturbing lead or lead containing paint or coating, as defined in subsection (b) having an exposure to lead at or above the action level on each occasion that a final medical determination results in a medical finding, determination, or opinion that the employee has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.
  2. For the purposes of this section, the phrase "final medical determination" means the written medical opinion on the employees' health status by the examining physician or, where relevant, the outcome of the multiple physician review mechanism or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section.
  3. Where a final medical determination results in any recommended special protective measures for an employee, or limitations on an employee's exposure to lead, the employer shall implement and act consistent with the recommendation.
- (C) Return of the employee to former job status.
1. The employer shall return an employee to his or her former job status:
    - a. For an employee removed under the provisions of (k)(1)(A) due to a blood lead level at or above 50 µg/dL when two consecutive blood sampling tests taken at least four weeks apart indicate that the employee's blood lead level is below 4015 µg/dL;
    - b. For an employee removed due to a final medical determination, when a subsequent final medical determination results in a medical finding, determination, or opinion that the employee no longer has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.
  2. For the purposes of this section, the requirement that an employer return an employee to his or her former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent

temporary medical removal, to a specific job classification or position under the terms of a collective bargaining agreement.

(D) Removal of other employee special protective measure or limitations. The employer shall remove any limitations placed on an employee or end any special protective measures provided to an employee pursuant to a final medical determination when a subsequent final medical determination indicates that the limitations or special protective measures are no longer necessary.

(E) Employer options pending a final medical determination. Where the multiple physician review mechanism, or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section, has not yet resulted in a final medical determination with respect to an employee, the employer shall act as follows:

1. Removal. The employer may remove the employee from exposure to lead, provide special protective measures to the employee, or place limitations upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status.
2. Return. The employer may return the employee to his or her former job status, end any special protective measures provided to the employee, and remove any limitations placed upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status, with two exceptions:
  - a. If the initial removal, special protection, or limitation of the employee resulted from a final medical determination which differed from the findings, determinations, or recommendations of the initial physician; or
  - b. If the employee has been on removal status for the preceding eighteen months due to an elevated blood lead level, then the employer shall await a final medical determination.

(2) Medical removal protection benefits.

(A) Provision of medical removal protection benefits. The employer shall provide an employee up to eighteen (18) months of medical removal protection benefits on each occasion that an employee is removed from exposure to lead or otherwise limited pursuant to this section.

(B) Definition of medical removal protection benefits. For the purposes of this section, the requirement that an employer provide medical removal protection benefits means that, as long as the job the employee was removed from continues, the employer shall maintain the total normal earnings, seniority and other employment rights and benefits of an employee, including the employee's right to his or her former job status as though the employee had not been medically removed from the employee's job or otherwise medically limited.

(C) Follow-up medical surveillance during the period of employee removal or limitation. During the period of time that an employee is medically removed from his or her job or otherwise medically limited, the employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to this section.

(D) Workers' compensation claims. If a removed employee files a claim for workers' compensation payments for a lead-related disability, then the employer shall continue to provide medical removal protection benefits pending disposition of the claim. To the extent that an award is made to the employee for earnings lost during the period of removal, the employer's medical removal protection obligation shall be reduced by such amount. The employer shall receive no credit for workers' compensation payments received by the employee for treatment-related expenses.

(E) Other credits. The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program, or receives income from employment with another employer made possible by virtue of the employee's removal.



(F) Voluntary removal or restriction of an employee. Where an employer, although not required by this section to do so, removes an employee from exposure to lead or otherwise places limitations on an employee due to the effects of lead exposure on the employee's medical condition, the employer shall provide medical removal protection benefits to the employee equal to that required by subsection (k)(2)(A) and (B).

**(l) Communication of hazards.**

(1) General.

(A) Hazard communication. The employer shall include lead in the program established to comply with the Hazard Communication Standard (HCS) (Section 5194). The employer shall ensure that each employee has access to labels on containers of lead and safety data sheets, and is trained in accordance with the provisions of HCS and subsection (l) of this section. The employer shall ensure that at least the following hazards are addressed:

1. Reproductive/developmental toxicity;
2. Central nervous system effects;
3. Kidney effects;
4. Blood effects; and
5. Acute toxicity effects.

(B) For all employees who are subject to exposure to lead at or above the action level on any day or who are subject to exposure to lead compounds which may cause skin or eye irritation (e.g. lead arsenate, lead azide), the employer shall provide a training program in accordance with subsection (l)(2) and assure employee participation. The training shall be provided in a language understandable to employees and shall use methods appropriate for employees with no or low literacy skills. The training shall use interactive/participatory training methods.

(C) The employer shall provide ~~the complete training program as initial for those employees covered by Section 1532.1 (l)(1)(B.) training~~ prior to the time of initial job assignment or prior to the start-up date for this requirement, whichever comes last.

(D) ~~The employer shall also provide the training program at least annually for~~ each employee who is subject to lead exposure at or above the action level on any day complete training shall be provided annually and – toolbox/tailgate safety meetings on lead shall be provided every three months.

(E) Where the certification of employee and supervisor training is required, as described in subsection (l)(~~3.4~~), the training shall be conducted by a training provider accredited by the California Department of Public Health Services, in accordance with Title 17, California Code of Regulations, Division 1, Chapter 8.

(2) ~~Complete training program. Complete annual training provided pursuant to Section 1532.1 (l) (1)(D) shall include, and the employer shall ensure that each employee can demonstrate knowledge of, the following.~~The employer shall assure that each employee is trained in the following:

- (A) The content of this standard and its appendices;
- (B) The specific nature of the operations which could result in exposure to lead above the action level;
- (C) The purpose, proper selection, fitting, use, and limitations of respirators;
- (D) The purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with ~~excessive~~ exposure to lead (with particular attention to the adverse reproductive effects on both males and females and hazards to the fetus and additional precautions for employees who are pregnant, and the health risks of chronic and low-level exposure);

(E) Recognition that lead brought home from the job on a worker's clothes, shoes, and/or body can endanger the health of a worker's household members, especially young children and pregnant women;

(F) Showering is recommended for employees immediately upon returning home from work to avoid take home lead exposure where the provision of workplace shower facilities by the employer is not feasible under subsection (i)(4) (A) and (B).

- (E) The engineering controls and work practices associated with the employee's job assignment including training of employees to follow relevant good work practices described in subsection (e)(1) and Appendix B of this section;
- (F) The contents of any compliance plan and the location of regulated areas in effect;
- (G) Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician; and
- (H) The employee's right of access to records under section 3204.

(3) Toolbox/tailgate safety meetings. At least once every 3 months, toolbox/tailgate safety meetings conducted pursuant to Section 1509(e) shall include at a minimum the following:

- (A) Review of lead safety topics previously covered in the annual training as needed;
- (B) Changes in work materials, practices, processes, or exposure controls since the previous quarterly training;
- (C) Changes in personal protective equipment since the previous quarterly training;
- (D) New or unappreciated lead safety hazards identified since the previous quarterly training.

(4) Certification of training for residential and public buildings.

The employer shall ensure that all employees and supervisors who are engaged in lead related construction work as defined in Title 17, California Code of Regulations, Section 35040, and have been shown to be exposed to lead at or above the permissible exposure limit, meet the training requirements of this section, are trained by an accredited training provider and are certified by the California Department of ~~Health~~ ServicesPublic Health. Lead related construction work is defined in Title 17 to be any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup, that, by using or disturbing lead containing material or soil, may result in significant exposure of adults or children

to lead. As used in the definition of lead related construction work, "public building" means a structure which is generally accessible to the public, including but not limited to, schools, daycare centers, museums, airports, hospitals, stores, convention centers, government facilities, office buildings and any other building which is not an industrial building or a residential building. Regulations for accreditation of training providers and for the certification of employees and supervisors are found in Title 17, California Code of Regulations, Division 1, Chapter 8.

~~(45)~~ Access to information, training and certification materials.

- (A) The employer shall make readily available to all affected employees a copy of this standard and its appendices.
- (B) The employer shall provide, upon request, all materials relating to the employee information training program and certification to affected employees, their designated representatives, the Chief, and NIOSH.

**(m) Signs.**

**(1) General.**

- (A) The employer shall post the following warning signs in each regulated area or work area where an employee's exposure to lead is above the PEL, or where employees are performing the tasks described in subsection (d)(2) or lead containing materials or lead containing paints or coatings are altered or disturbed.

DANGER  
LEAD WORK AREA  
MAY DAMAGE FERTILITY OR THE UNBORN CHILD  
CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM  
DO NOT EAT, DRINK OR SMOKE IN THIS AREA

- (B) The signs shall be in a language understandable to workers.
- ~~(B)~~ The employer shall ensure that no statement appears on or near any sign required by this subsection (m) that contradicts or detracts from the meaning of the required sign.
- ~~(C)~~ The employer shall ensure that signs required by this subsection (m) are illuminated and cleaned as necessary so that the legend is readily visible.
- ~~(D)~~ The employer may use signs required by other statutes, regulations or ordinances in addition

to, or in combination with, signs required by this subsection (m).

(EF) Prior to June 1, 2016, employers may use the following legend in lieu of that specified in subsection (m)(1)(A) of this section:

WARNING  
LEAD WORK AREA  
POISON  
NO SMOKING OR EATING

**(n) Record keeping.**

**(1) Exposure assessment.**

- (A) The employer shall establish and maintain an accurate record of all monitoring and other data used in conducting employee exposure assessments as required in subsection (d).
- (B) Exposure monitoring records shall include:
  - 1. The date(s), number, duration, location and results of each of the samples taken if any, including a description of the sampling procedure used to determine representative employee exposure where applicable;
  - 2. A description of the sampling and analytical methods used and evidence of their accuracy;
  - 3. The type of respiratory protective devices worn, if any;
  - 4. Name, employee identification number ~~social security number~~, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent; and
  - 5. The environmental variables that could affect the measurement of employee exposure.

(C) The employer shall maintain monitoring and other exposure assessment records in accordance with the provisions of section 3204.

**(2) Measurements of lead surface contamination.**

- (A) The employer shall establish and maintain an accurate record of all surface sampling required in Sections 1532.1 (i)(3)(D) and (i)(5)(B)(C) and (E).
- (B) This record shall include the date(s), number, location, and results of each of the samples taken, including a description of the sampling method used.

**(C) The employer shall maintain records of lead surface testing for at least 30 years.**

**(23) Medical surveillance.**

- (A) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by subsection (j).
- (B) This record shall include:
  - 1. The name, employee identification number ~~social security number~~, and description of the duties of the employee;
  - 2. A copy of the physician's written opinions;
  - 3. Results of any airborne exposure monitoring done on or for that employee and provided to the physician; and
  - 4. Any employee medical complaints related to exposure to lead.
- (C) The employer shall keep, or assure that the examining physician keeps, the following medical records:
  - 1. A copy of the medical examination results including medical and work history required under subsection (j);
  - 2. A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;
  - 3. A copy of the results of biological monitoring.
- (D) The employer shall maintain or assure that the physician maintains medical records in accordance with the provisions of section 3204.

**(34) Medical removals.**

- (A) The employer shall establish and maintain an accurate record for each employee removed from current exposure to lead pursuant to subsection (k).
- (B) Each record shall include:
  - 1. The name and employee identification number ~~social security number~~ of the employee;
  - 2. The date of each occasion that the employee was removed from current exposure to lead

**Comment [PC7]:** See previous comment on removing SSN# and substituting with employee identification number.

**Comment [PC6]:** Suggest that SSN# be deleted and substituted with "employee identification number". Use of SSN# in this way is not advisable and may no longer be allowable.

**Comment [PC8]:** See previous comment on removing SSN# and substituting with employee identification number.

as well as the corresponding date on which the employee was returned to his or her former job status;

3. A brief explanation of how each removal was or is being accomplished; and
4. A statement with respect to each removal indicating whether or not the reason for the removal was an elevated blood lead level.

(C) The employer shall maintain each medical removal record for at least the duration of an employee's employment.

**(45) “Objective data for exemption from requirement for initial monitoring”.**

(A) For purposes of this section, objective data are information demonstrating that a particular product or material containing lead or a specific process, operation, or activity involving lead cannot release dust or fumes in concentrations at or above the action level under any expected conditions of use. Objective data can be obtained from any industry-wide study or from laboratory product test results from manufacturers of lead containing products, including surface coating or other materials. The data the employer uses from an industry-wide survey must be obtained under workplace conditions closely resembling the processes, types of material, control methods, work practices and environmental conditions in the employer's current operations.

(B) The employer shall maintain the record of the objective data relied upon for at least 30 years.

**(56) Availability.** The employer shall make available upon request all records required to be maintained by subsection (n) to affected employees, former employees, and their designated representatives, and to the Chief and NIOSH for examination and copying.

**(67) Transfer of records.**

(A) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by subsection (n).

(B) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records required to be maintained by this section for the prescribed period, these records shall be transmitted to NIOSH.

(C) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify NIOSH at least 3 months prior to the disposal of such records and shall transmit those records to NIOSH if requested within the period.

(D) The employer shall also comply with any additional requirements involving transfer of records set forth in section 3204(h).

**(o) Observation of monitoring.**

(1) **Employee observation.** The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to lead conducted pursuant to subsection (d).

(2) **Observation procedures.**

(A) Whenever observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing or equipment is required, the employer shall provide the observer with and assure the use of such respirators, clothing and equipment, and shall require the observer to comply with all other applicable safety and health procedures.

(B) Without interfering with the monitoring, observers shall be entitled to:

1. Receive an explanation of the measurement procedures;
2. Observe all steps related to the monitoring of lead performed at the place of exposure; and
3. Record the results obtained or receive copies of the results when returned by the laboratory.

**(p) Lead-Work Pre-Job Notification.**

The employer shall provide written notification to the nearest Division District Office in the manner prescribed by subsections (p)(1) through (p)(4) when work is planned that includes any of the tasks listed in subsection (d)(2).

EXCEPTION NO. 1: The employer is not required to notify the Division if:

A. The amount of lead-containing materials to be disturbed is less than 100 square or 100 linear feet; or

B. The only subsection (d)(2) task to be performed consists of torch cutting or welding, not to exceed a duration of 1 hour in any shift.

EXCEPTION NO. 2: The employer is not required to notify the Division if the percentage of lead in the material disturbed is less than 0.5%, 5,000 parts per million (weight by weight), or 1.0 mg/cm<sup>2</sup>.

- (1) The employer shall ensure that the information required by subsection (p)(2) is received by the nearest Division District Office at least 24 hours prior to the commencement of the work by any of the following means:
  - (A) Letter;
  - (B) Facsimile;
  - (C) Electronic mail; or
  - (D) Telephone call, followed by written notification sent or mailed within 24 hours of placing the call.

EXCEPTION: When an employer intends to initiate unforeseen lead-work on an urgent basis within 24 hours, the notification requirement may be met by giving telephone notice to the Division at any time prior to commencement of the work, followed by written notification sent or mailed within 24 hours of telephoning the Division.

- (2) The written notification provided by the employer shall contain the following:
  - (A) The name, address and phone number of the employer;
  - (B) The address of the job (or common name of the site with closest streets or roadways identified);
  - (C) The precise physical location of the lead-related work at the job site;
  - (D) The projected starting date;
  - (E) The expected completion date or approximate duration of the work in days;
  - (F) The approximate number of workers planned to do the lead-related work;
  - (G) The type of structure(s) in which or on which the work is to be performed;
  - (H) The amount of lead containing material to be disturbed in square feet or linear feet;

- (I) A description of the type of lead-related work to be performed and work practices that will be utilized;
  - (J) The name of the supervisor who will be responsible for the lead-related work; and
  - (K) The amount of lead in the disturbed materials (percent by weight, parts per million or milligrams per square centimeter) if known.
- (3) The employer shall notify the Division, and provide the current information, if changes are made to the starting date, the surface area to be disturbed, or the type of lead-related work performed or work practices to be utilized, before or upon adoption of that change.
  - (4) An employer conducting ongoing, lead-related operations and maintenance work on stationary steel structures need only notify the Division once for each structure if the duration of the operations and maintenance work is less than one year. If the duration of the work is more than one year, the employer shall submit to the Division at least once per year a supplemental written notification updating all of the information required by subsection (p)(2) for each structure.

(q) [REDACTED].

The information contained in the appendices to this section is not intended, by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.

**Comment [PC9]:** Appendices A-C will need to be revised to bring them into agreement with a revised standard. OLPPP can provide assistance in revising these appendices at the appropriate time.