

Title 8. Industrial Relations

Division 1. Department of Industrial Relations

Chapter 4. Division of Industrial Safety

Subchapter 4. Construction Safety Orders

Article 4. Dusts, Fumes, Mists, Vapors, and Gases (Refs & Annos)

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§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 2 micrograms per cubic meter of air (2 µg/m³) calculated as an 8-hour time-weighted average (TWA).

Altering or disturbing means subjecting to a process that may result in the release of lead dust, lead mist, lead fume, or other lead particles. Such processes include, but are not limited to, welding, torch cutting, brazing, torch soldering, melting, pouring, spraying, cutting, shredding, crushing, baling, grinding, polishing, machining, drilling, scraping, sanding, abrading, sweeping, raking, and shoveling.

Blood lead level means the concentration of lead measured in whole blood, expressed as micrograms per deciliter (µg/dl) of whole blood.

Chief means the Chief of the Division of Occupational Safety and Health (Cal/OSHA) or designee.

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

Lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

Level 1 trigger task means a task listed in subsection [\(d\)\(2\)\(A\)](#), which, until an exposure assessment as required in subsection (d) is completed, is presumed to result in employee exposure above the permissible exposure limit (PEL), but not greater than 10 times the PEL.

Level 2 trigger task means a task listed in subsection [\(d\)\(2\)\(C\)](#), which, until an exposure assessment as required in subsection (d) is completed, is presumed to result in employee exposure above 10 times the PEL, but not greater than 50 times the PEL.

Level 3 trigger task means a task listed in subsection [\(d\)\(2\)\(D\)](#), which, until an exposure assessment as required in subsection (d) is completed, is presumed to result in employee exposure above 50 times the PEL.

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

Physician or other licensed health care professional (PLHCP) means an individual whose legally permitted scope of practice (i.e., license, registration or certification) allows the individual to independently provide or be delegated the responsibility to provide some or all of the 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 subsection (1)(3).

Trigger task -- not listed means a task described in subsection [\(d\)\(2\)\(B\)](#), which, until an exposure assessment as required in subsection (d) is completed, is presumed to result in employee exposure above the PEL.

(c) Permissible exposure limit (PEL).

(1) The employer shall ensure that no employee is exposed to an airborne concentration of lead greater than 10 micrograms per cubic meter of air (10 $\mu\text{g}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA). The 8-hour TWA shall be calculated in accordance with the appendix to section [5155](#).

Exception: Until January 1, 2030, no employee conducting abrasive blasting shall be exposed to an airborne concentration of lead greater than 25 micrograms per cubic meter of air (25 $\mu\text{g}/\text{m}^3$), calculated as an eight-hour time-weighted average (TWA).

(2) 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 prior to assessment of exposure.

(A) Level 1 trigger tasks. With respect to the level 1 trigger 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) times the PEL, and shall implement interim protection as prescribed in subsection (d)(2)(E). The tasks covered by this requirement are, where lead-containing coatings or paint are present: manual demolition of structures (e.g., dry wall), manual scraping and heat gun applications.

(B) Trigger tasks -- not listed. In addition, with regard to tasks not listed in subsection (d)(2)(A), where the employer 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 interim protection as prescribed in subsection (d)(2)(E).

(C) Level 2 trigger tasks. With respect to the level 2 trigger 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 100 $\mu\text{g}/\text{m}^3$ (10 x PEL), the employer shall treat the employee as if the employee were exposed to lead in excess of 100 $\mu\text{g}/\text{m}^3$ and shall implement interim protection as prescribed in subsection [\(d\)\(2\)\(E\)](#). Where the employer does establish that the employee is exposed to levels of lead below 100 $\mu\text{g}/\text{m}^3$, the employer may provide the exposed employee with the appropriate respirator prescribed for such use at such lower exposures, in accordance with section [5144\(d\)\(3\)\(A\)1](#). The tasks covered by this requirement are:

1. Where lead-containing coatings or paint are present: manual sanding, and power tool cleaning, grinding, or sanding with dust collection systems.
2. Spray painting with lead paint.

(D) Level 3 trigger tasks. With respect to the level 3 trigger tasks listed in this subsection [\(d\)\(2\)\(D\)](#), 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 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 500 $\mu\text{g}/\text{m}^3$ and shall implement interim protection 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 use at such lower exposures, in accordance with section [5144\(d\)\(3\)\(A\)1](#). Interim protection as prescribed in subsection [\(d\)\(2\)\(E\)](#) is required when performing any of the following tasks:

1. Using lead-containing mortar or lead burning.
2. Where lead-containing coatings or paint are present:
 - a. Rivet busting.
 - b. Power tool cleaning, grinding or sanding without dust collection systems.
 - c. Cleanup activities where dry expendable abrasives are used.
 - d. Abrasive blasting enclosure movement and removal.
 - e. Abrasive blasting.
 - f. Welding.
 - g. Torch cutting.
 - h. 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 trigger tasks as 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 [\(i\)\(2\)](#);
4. Shower facilities in accordance with subsection [\(i\)\(3\)](#), for employees performing level 3 trigger tasks listed in subsection [\(d\)\(2\)\(D\)](#);
5. Eating facilities or eating areas in accordance with subsection [\(i\)\(4\)](#);
6. Regulated areas in accordance with subsection [\(i\)\(6\)](#);
7. Limiting the maximum amount of time an employee can conduct dry abrasive blasting to 5 hours per day, except that after January 1, 2030, the amount of time shall be similarly limited to 2 hours per day;
8. Medical surveillance in accordance with subsections [\(j\)\(1\)\(A\)](#) and [\(j\)\(1\)\(B\)](#); and
9. Training as required under subsections [\(l\)\(1\)\(A\)](#), [\(l\)\(1\)\(B\)](#) and [\(l\)\(1\)\(C\)](#); and training in accordance with section 1510, Safety Instructions 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:

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 [\(n\)\(7\)](#), 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 trigger tasks listed in 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 [\(n\)\(7\)](#).

(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 may 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 trigger 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) and shall also include the date of determination, location within the worksite, and the name and another unique identifier (such as date of birth or employee identification number) of each employee monitored.

(B) Objective data that meet the requirements of subsection (n)(7) 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 trigger 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 below 30 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA, the employer shall perform monitoring at least every 12 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 except as otherwise provided in subsection (d)(7).

(C) If the initial determination or subsequent determination reveals employee exposure to be at or above 30 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA but at or below 50 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA, the employer shall perform monitoring 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 30 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA. Subsequent monitoring shall conform with the applicable provisions of subsection (d)(6)(B), except as otherwise provided in subsection (d)(7).

(D) If the initial determination or subsequent determination reveals that employee exposure is above 50 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA, 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 50 $\mu\text{g}/\text{m}^3$ as an

8-hour TWA, at which time the employer shall repeat monitoring at the frequency specified in subsection [\(d\)\(6\)\(B\)](#) or [\(C\)](#), as appropriate, based on the monitoring results, 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 20 percent for airborne concentrations of lead equal to or greater than 2 µg/m³. 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 20 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 extent that such controls are 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 [\(f\)](#).

(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 any engineering and work practice controls considered in meeting the PEL but not implemented due to infeasibility, that includes an explanation of how each was determined to be infeasible;
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. The revisions and updates shall be documented in writing, in accordance with subsection [\(n\)\(2\)](#).

(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 written job rotation schedule that includes:

(A) Name and another unique identifier (such as date of birth or employee 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 trigger tasks described in subsection [\(d\)\(2\)](#).

(2) Respirator program.

(A) An employer must implement a respiratory protection program in accordance with section [5144\(b\)](#) through (m), except section [5144\(d\)\(1\)\(C\)](#).

(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 [\(j\)\(3\)\(A\)2](#). 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](#). If the employer selects filtering facepiece respirators for protection against lead, they shall be N100, R100, or P100.

(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 air-purifying respirators and N100, R100, or P100 filters for non-powered air-purifying respirators.

(g) Protective work clothing and equipment.

(1) Provision and use. Where an employee is exposed to lead above the PEL 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 performing trigger tasks described in subsection [\(d\)\(2\)](#), the employer shall

provide at no cost to the employee and ensure that the employee uses appropriate protective work clothing and equipment that prevents contamination of the employee and the employee's garments including, but not limited to:

- (A) Coveralls or similar full-body work clothing;
- (B) Hats or other head coverings, and shoes or disposable shoe coverlets; and
- (C) Where needed, gloves, face shields, vented goggles, or other protective equipment, in accordance with General Industry Safety Orders ([GISO](#)) Article 10, Personal Safety Devices and Safeguards.

(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 whose exposure levels without regard to a respirator are over 30 µg/m³ of lead as an 8-hour TWA.

(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 ensure 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 [\(i\)\(2\)](#).

(E) The employer shall ensure 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) The employer shall ensure 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.

(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 surfaces shall be maintained as free as practicable of accumulations of lead.
 - (2) Floors and other surfaces where lead accumulates shall be cleaned, wherever possible, by vacuuming or by other methods that minimize the likelihood of lead becoming airborne.
 - (3) Shoveling, dry or wet sweeping, and brushing shall not be used unless the employer can demonstrate that 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) General hygiene.
 - (A) The employer shall ensure that in areas where employees are exposed to lead, food or beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied.
 - (B) For all employees exposed to lead, the employer shall provide an adequate number of washing facilities, or lavatories, and special cleansing compounds, in accordance with the provisions of section [1527\(a\)](#).
 - (C) The employer shall ensure that employees exposed to lead wash their hands, exposed arms, and face prior to entering eating areas, eating, drinking, smoking or applying cosmetics, and at the end of their shift.
 - (2) Change areas.
 - (A) The employer shall provide clean change areas for employees whose airborne exposure to lead is above the PEL without regard to the use of respirators, and as interim protection for employees performing trigger tasks described in subsection [\(d\)\(2\)](#).
 - (B) The employers shall ensure that change areas are equipped with separate storage facilities for protective work clothing and equipment, and for street clothes, which prevent cross-contamination.
 - (C) The employer shall ensure that employees do not enter personal vehicles or leave the workplace with any protective clothing or equipment that is required to be worn during the work shift.
 - (3) Showers.
 - (A) The employer shall provide shower facilities for use by employees whose airborne exposure to lead is above 50 µg/m³, without regard to the use of respirators, and as interim protection for employees performing level 3 trigger tasks listed in subsection [\(d\)\(2\)\(D\)](#).
Exception: Shower facilities are not required when the employer can demonstrate

that shower facilities are not feasible.

(B) The employer shall ensure that required shower facilities comply with section [3366\(f\)](#).

(C) The employer shall ensure, where shower facilities are required, 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.

(4) Eating facilities.

(A) The employer shall provide readily accessible lunchroom facilities or eating areas for employees whose airborne exposure to lead is above the PEL, without regard to the use of respirators, and as interim protection for employees performing trigger tasks described in subsection [\(d\)\(2\)](#).

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

(5) Cleaning of hygiene facilities. The employer shall establish, implement and maintain effective written methods and schedules to maintain the cleanliness of drinking and washing facilities, change rooms, showers, lunchrooms, and eating areas required by this subsection.

(6) Regulated areas.

(A) Employers shall establish regulated areas, unless the employer can demonstrate that they are not feasible, for work areas where employees are exposed to lead above the PEL without regard to the use of respirators, and as interim protection for employees performing trigger tasks described in subsection [\(d\)\(2\)](#).

(B) Regulated areas shall be posted with signs as described in subsection [\(m\)\(1\)](#).

(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 blood lead testing to employees:

1. Prior to assignment to work where exposure to lead is or is reasonably expected to be at or above the action level; and

Exception 1: Initial blood lead testing is not required for an employee who is not, and is not reasonably expected to be, exposed to lead at or above the action level for 30 or more days in any 12 consecutive months, and who is not exposed on any day above 10 µg/m³ as an 8-hour TWA, without regard to respirator use.

Exception 2: Initial blood lead testing is not required for an employee who is not, and is not reasonably expected to be, exposed to lead at or above the action level for 15 or more days in any 12 consecutive months, and who is not exposed on any day above 20 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA, without regard to respirator use.

Exception 3: Initial blood lead testing is not required for an employee who has had a blood lead test in the preceding two months.

2. As interim protection, prior to performing trigger tasks described in subsection [\(d\)\(2\)](#), unless a negative initial determination has been made as described in subsection [\(d\)\(5\)](#).

(B) The employer shall institute a medical surveillance program in accordance with subsections [\(j\)\(2\)](#) and [\(j\)\(3\)](#):

1. For all employees who are or may be exposed to lead at or above the action level; and

Exception 1: Medical surveillance is not required for an employee who is not exposed to lead at or above the action level for 30 or more days in any 12 consecutive months, and who is not exposed on any day above 10 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA, without regard to respirator use.

Exception 2: Medical surveillance is not required for an employee who is not exposed to lead at or above the action level for 15 or more days in any 12 consecutive months, and who is not exposed on any day above 20 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA, without regard to respirator use.

2. As interim protection, for all employees who perform trigger tasks described in subsection [\(d\)\(2\)](#).

Exception 1: Medical surveillance is not required where a negative initial determination has been made in accordance with subsection [\(d\)\(5\)](#).

Exception 2: Medical surveillance is not required for an employee who only performs level 1 trigger tasks and who does not perform these level 1 trigger tasks on 10 or more days in any 12 consecutive months.

(C) The employer shall ensure that all medical examinations and procedures are performed by a PLHCP.

(D) The employer shall make available the required medical surveillance including multiple PLHCP review under subsection [\(j\)\(3\)\(C\)](#) without cost to employees and at a reasonable time and place.

(E) The employer shall provide complete employee identification information to the PLHCP who performs any services covered under subsections [\(j\)\(1\)](#), [\(j\)\(2\)](#) and

[\(j\)\(3\)](#). The employer shall instruct the PLHCP ordering blood lead tests to provide the analyzing laboratory with the employee identification information.

Identification information includes:

1. Employee name, date of birth, address, and phone number; and
2. Employer name, address, and phone number.

(2) Blood lead testing.

(A) Blood lead testing schedule. The employer shall make available blood lead testing to each employee covered under subsections [\(j\)\(1\)\(A\)](#) or [\(B\)](#) on the following schedule:

1. For each employee covered under subsection [\(j\)\(1\)\(B\)](#), initially in accordance with subsection [\(j\)\(1\)\(A\)](#), and then at least every 2 months for the first 6 months after initial placement, and then every 6 months thereafter;
2. For each employee covered under subsection [\(j\)\(1\)\(B\)](#), at least every 2 months for the first 6 months after a change in task resulting in or likely to result in higher exposure to lead, and then every 6 months thereafter;
3. At least every two months for each employee whose last blood lead level was at or above 10 µg/dl but below 20 µg/dl. This frequency shall continue until two consecutive blood lead levels, taken at least 30 days apart, are below 10 µg/dl;
4. At least monthly for each employee whose last blood lead level was at or above 20 µg/dl, and during the removal period of each employee who is removed from exposure to lead due to an elevated blood lead level;
5. At least monthly, as interim protection in accordance with subsection [\(d\)\(2\)\(E\)](#), for each employee performing a level 3 trigger task as listed in subsection [\(d\)\(2\)\(D\)](#), including a blood test taken within 3 days after discontinuing all level 3 trigger task work; and
6. At least monthly for each employee whose airborne exposure is above 500 µg/m³ as an 8-hour TWA, without regard to the use of respirators, including a blood test taken within 3 days after discontinuing all work associated with airborne exposure above 500 µg/m³ as an 8-hour TWA.

(B) Accuracy of blood lead testing. Blood lead testing provided pursuant to this section shall include analysis by a Clinical Laboratory Improvement Amendments (CLIA)-approved laboratory (under the federal CLIA regulations, [42 CFR Part 493](#)).

(C) Employer notification to the employee. Within five working days after the receipt of blood lead test results, the employer shall notify each employee in writing:

1. Of that employee's blood lead level;
2. That the standard requires the employer to make medical examinations and consultations available to employees exposed at or above the action

level, and as interim protection, to employees performing trigger tasks, unless an employee's exposure or work is covered by the exceptions in 1532.1(j)(1)(B). When they are required, the employer must make medical examinations and consultations available 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, or that the employee has demonstrated difficulty breathing during a respirator fit test or during use; and

3. That the standard requires temporary medical removal with Medical Removal Protection benefits when an employee's blood lead level is at or above 30 µg/dl, the last two monthly blood lead levels are at or above 20 µg/dl, or the average of the results of all blood lead tests conducted in the last 6 months is at or above 20 µg/dl, as provided for in subsection (k)(1)(A).

(D) PLHCP's notification to the employee. The employer shall ensure that the PLHCP who orders the blood test explains the findings of the blood lead test and notifies the employee of the following:

1. The results of the blood lead test;
2. Any recommended follow-up blood lead testing in accordance with subsection (j)(2)(A) and the timing of that recommended blood lead testing; and
3. If the employee's blood lead level is 20 µg/dl or greater, the recommendation that the employee undergo a medical examination by a PLHCP if the employee has not had a lead-specific medical exam in the preceding 12 months.

(E) Elevated blood lead level response.

1. Whenever an employee has a blood lead level at or above 10 µg/dl, the employer shall establish and implement a written elevated blood lead level response plan for that employee which describes specific means that will be used to reduce and maintain the employee's blood lead level below 10 µg/dl.
2. Training and instruction shall be provided as needed for an employee who has a blood lead level at or above 10 µg/dl, to correct any employee work practices identified in the elevated blood lead level response plan established for that employee under subsection (j)(2)(E)1.

Exception: A written elevated blood lead level response plan, training and instruction, as specified in subsection (j)(2)(E), are not required when a blood lead level at or above 10 µg/dl is detected only in an employee's initial blood lead testing.

(3) Medical examinations and consultations.

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

1. As soon as possible for each employee for whom a blood lead test result of 20 µg/dl or greater is received, if no lead-specific medical examination was done for that employee in the preceding 12 months, and at least annually thereafter until the employee's blood lead level is below 20 µg/dl;
2. Prior to assignment for each employee covered by subsection [\(j\)\(1\)\(B\)](#);
Exception: A medical examination is not required prior to assignment for an employee who has had a lead-specific medical examination in the preceding two months.
3. 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 fit test or during use; and
4. As soon as possible, and then as medically appropriate, for each employee either removed from exposure to lead due to elevated blood lead levels in compliance with the provisions of subsection [\(k\)\(1\)\(A\)](#), or whose exposure to lead is otherwise limited pursuant to a final medical determination in compliance with the provisions of subsection [\(k\)\(1\)\(B\)](#).

(B) Content. The content of medical examinations made available pursuant to subsection [\(j\)\(3\)\(A\)](#) 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, hematologic, gastrointestinal, renal, cardiovascular, and neurological systems. If requested by an employee, pregnancy testing or laboratory evaluation of male fertility shall be included. 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 for each employee whose last blood lead

- level was at or above 20 µg/dl;
 - 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 PLHCP deems necessary by sound medical practice.
- (C) Multiple PLHCP review mechanism.
1. If the employer selects the initial PLHCP who conducts any medical examination or consultation provided to an employee under this section, the employee may designate a second PLHCP:
 - a. To review any findings, determinations or recommendations of the initial PLHCP; and
 - b. To conduct such examinations, consultations, and laboratory tests as the second PLHCP 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 PLHCP conducts a medical examination or consultation pursuant to this section. The employer may condition its participation in, and payment for, the multiple PLHCP review mechanism upon the employee doing the following within fifteen (15) days after receipt of the foregoing notification, or receipt of the initial PLHCP's written opinion, whichever is later:
 - a. The employee informing the employer that they intend to seek a second medical opinion, and
 - b. The employee initiating step to make an appointment with a second PLHCP.
 3. If the findings, determinations or recommendations of the second PLHCP differ from those of the initial PLHCP, then the employer and the employee shall ensure that efforts are made for the two PLHCPs to resolve any disagreement.
 4. If the two PLHCPs have been unable to quickly resolve their disagreement, then the employer and the employee through their respective PLHCPs shall designate a third PLHCP:
 - a. To review any findings, determinations or recommendations of the prior PLHCP; and
 - b. To conduct such examinations, consultations, laboratory tests and discussions with the prior PLHCPs as the third PLHCP deems necessary to resolve the disagreement of the prior PLHCPs.
 5. The employer shall act consistent with the findings, determinations and recommendations of the third PLHCP, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three PLHCPs.

(D) Information provided to examining and consulting PLHCPs.

1. The employer shall provide an initial PLHCP 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 test results;
- f. All prior written medical opinions concerning the employee in the employer's possession or control; and
- g. A copy of the written elevated blood lead level response plan for that employee as required by subsection [\(j\)\(2\)\(E\)1](#).

2. The employer shall provide the foregoing information to a second or third PLHCP conducting a medical examination or consultation under this section upon request either by the second or third PLHCP, or by the employee.

(E) PLHCP's written medical report for the employee.

The employer shall ensure that the PLHCP explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of each medical examination performed. The written report shall contain:

1. The PLHCP's opinion as to whether the employee has any detected health-related condition that would place the employee's health, including the ability to procreate a healthy child, at increased risk of material impairment from exposure to lead;
2. Any recommended special protective measures to be provided to the employee, or recommended limitations to be placed upon the employee's exposure to lead;
3. Any recommended limitations upon the employee's use of respirators, including a determination of whether the employee should wear a powered air-purifying respirator instead of a non-powered air-purifying respirator;
4. The employee's blood lead test results;
5. Any recommended follow-up blood lead testing and medical examinations and the timing of each; and
6. The PLHCP's opinion as to whether the employee has any health-related condition, occupational or non-occupational, that dictates further medical examination or treatment.

(F) PLHCP's written medical opinion for the employer.

1. The employer shall obtain a written medical opinion from the examining PLHCP within 30 days of the medical examination. The written opinion shall contain the information required by subsections [\(j\)\(3\)\(E\)1.](#) through [\(j\)\(3\)\(E\)5.](#), except as specified in subsection [\(j\)\(3\)\(F\)2.](#)

2. The employer shall instruct the examining PLHCP to not include either in the written opinion to the employer, or in any other means of communication with the employer, findings, including laboratory results, or diagnoses unrelated to the employee's occupational exposure to lead.

(G) Alternate PLHCP determination mechanisms. The employer and an employee or authorized employee representative may agree upon the use of any alternate PLHCP determination mechanism in lieu of the multiple PLHCP 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 ensure that any person whom the employer 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 ensure that it be done by a PLHCP 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 having an exposure to lead at or above the action level, involving a trigger task as described in subsection [\(d\)\(2\)](#) and an exposure assessment as required in subsection [\(d\)](#) has not been completed, or altering or disturbing any material containing lead at a concentration equal to or greater than 0.5% by weight, on each occasion that:

1. The last blood lead test indicates that the employee's blood lead level is at or above 30 µg/dl;

2. Effective January 1, 2026, the last two blood lead test results are at or above 20 µg/dl; or

3. Effective January 1, 2026, the average of the results of all blood lead tests conducted in the last 6 months is at or above 20 µg/dl; however, an employee need not be removed if the last blood lead test indicates a blood lead level below 15 µg/dl.

(B) Temporary removal due to a final medical determination.

1. The employer shall remove an employee from work having an exposure

to lead at or above the action level, involving a trigger task as described in subsection [\(d\)\(2\)](#) and an exposure assessment as required in subsection (d) has not been completed, or altering or disturbing any material containing lead at a concentration equal to or greater than 0.5% by weight, on each occasion that a final medical determination results in a medical finding, determination, or opinion that the employee has a detected health-related condition which places the employee's health, including the ability to procreate a healthy child, at increased risk of material impairment from exposure to lead.

2. For the purposes of this section, the phrase “final medical determination” means the written medical opinion on the employee's health status by the examining PLHCP or, where relevant, the outcome of the multiple PLHCP 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 their former job status:

a. For an employee removed under the provisions of subsection [\(k\)\(1\)\(A\)](#), when two consecutive blood lead tests, taken at least 30 days apart, both indicate that the employee's blood lead level is below 15 µg/dl; and

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 health-related condition which places the employee's health, including the ability to procreate a healthy child, at increased risk of material impairment from exposure to lead.

2. For the purposes of this section, the requirement that an employer return an employee to their 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

PLHCP review mechanism, or alternate PLHCP 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 PLHCPs who have reviewed the employee's health status.

2. Return. The employer may return the employee to their 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 PLHCPs who have reviewed the employee's health status.

Exception 1: 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 PLHCP.

Exception 2: 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 their 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 their 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 health-related condition, the employer shall provide medical removal protection benefits to the employee equal to those 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 [\(1\)](#) of this section. The employer shall ensure that at least the following hazards are addressed:

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

(B) For all employees occupationally exposed to lead, the employer shall provide training covering the purpose and content of, and methods used to comply with, the housekeeping and hygiene requirements specified in subsections [\(h\)](#), [\(i\)\(1\)](#) and [\(i\)\(5\)](#). This training shall be provided prior to the time of initial job assignment, and at least annually thereafter.

(C) For the employees listed below, the employer shall provide a training program in accordance with subsection [\(1\)\(2\)](#) and ensure employee participation:

1. For employees who are exposed to lead at or above the action level on any day;
2. For employees who are exposed to lead that may cause skin or eye irritation (e.g. lead arsenate, lead azide); or

3. As interim protection, for employees who perform trigger tasks described in subsection [\(d\)\(2\)](#).

(D) The employer shall ensure that the training, and any training materials used, is appropriate to the educational level, literacy level, and language of employees.

(E) For each employee covered by subsection [\(l\)\(1\)\(C\)](#), the employer shall provide initial training covering all content in subsection [\(l\)\(2\)](#) prior to the time of initial job assignment, and at least annually thereafter.

(F) Where the certification of employee and supervisor training is required, as described in subsection [\(l\)\(3\)](#), the training shall be conducted by a training provider accredited by the California Department of Public Health, in accordance with [Title 17, California Code of Regulations, Division 1, Chapter 8](#).

(2) Training program.

The employer shall ensure that effective training on the following topics is provided for each employee covered by subsection [\(l\)\(1\)\(C\)](#):

(A) The content of this standard and its appendices;

(B) The specific nature of the operations which could result in exposure to lead at or above the action level;

(C) The purpose and content of, and methods used to comply with, the hygiene requirements specified in subsections [\(i\)\(2\)](#) through [\(i\)\(4\)](#);

(D) The purpose, proper selection, fitting, use, and limitations of respirators;

(E) The purpose and a description of the medical surveillance program and the medical removal protection program;

(F) The health effects of exposure to lead (with particular attention to cardiovascular effects), including low-level chronic exposure;

(G) The damage to both male and female reproductive health caused by low-level lead exposure, including damage associated with blood lead levels under 5 µg/dl;

(H) The employer's duty, as required by subsection [\(j\)\(3\)\(A\)](#), to make medical examinations and consultations available to each employee who notifies the employer that they desire medical advice concerning their ability to procreate a healthy child, when the employee is exposed at or above the action level, and as interim protection, to an employee who performs trigger tasks, unless the employee's exposure or work is covered by the exceptions in subsection [\(j\)\(1\)\(B\)](#);

(I) The routes of exposure to lead, including inhalation of airborne lead and ingestion of lead from contaminated hands and other surfaces;

(J) The possibility that lead contamination brought into personal vehicles or the home on an employee's clothes, shoes, and body will endanger the health of household members, especially that of young children and pregnant people;

(K) The recommendation to shower immediately upon returning home from work to minimize take-home lead exposure;

Note: When employees are exposed above the PEL, or perform level 3 trigger tasks listed in subsection [\(d\)\(2\)\(D\)](#), the employer must provide

shower facilities and ensure that employees shower at the end of the work shift, in accordance with subsection [\(i\)\(3\)](#).

(L) The engineering controls and work practices associated with the employee's job assignment, and training in following applicable work practices described in Appendix B of this section;

(M) The contents of any compliance plan and the location of regulated areas in effect;

(N) Instructions that chelating agents should not routinely be used to remove lead from the body and should not be used at all except by a PLHCP; and

(O) The employee's right of access to their exposure and medical records under section [3204](#).

(3) 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 50 µg/m³ as an 8-hour TWA, meet the training requirements of this section, are trained by an accredited training provider and are certified by the California Department of Public Health (CDPH). 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](#).

(4) 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, and in each work area where an employee's exposure to lead is at or above the action level:

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 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 [\(m\)](#).

(E) The employer shall ensure that warning signs required by subsection [\(m\)](#) are in a language understandable to employees.

(n) Recordkeeping.

(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. The name, another unique identifier (such as date of birth or employee identification number), and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent; and
5. The work operations performed by the monitored employees and the workplace conditions under which they were performed, including the processes, types of material, control methods, and work practices used, as well as the environmental conditions prevailing during the monitored operations.

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

(2) Written compliance program review.

Records of the semi-annual revision and update of the employer's written compliance program, required under subsection [\(e\)\(2\)\(A\)](#), shall include the name of the person(s) who reviewed the program, the date the review was completed,

and a summary of the revisions and updates to the program. The records shall be retained for three years.

(3) 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, another unique identifier (such as date of birth or employee identification number), and description of the duties of the employee;
2. A copy of the PLHCP's written opinions;
3. Results of any airborne exposure monitoring done on or for that employee and provided to the PLHCP; and
4. Any employee medical complaints related to exposure to lead.

(C) The employer shall keep, or ensure that the examining PLHCP 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 blood lead testing.

(D) The employer shall maintain or ensure that the PLHCP maintains medical records in accordance with the provisions of section [3204](#).

(4) Written elevated blood lead level response plans.

Written elevated blood lead level response plans, required under subsection (j)(2)(E), shall be retained for three years.

(5) 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 another unique identifier (such as date of birth or employee identification number) of the employee;
2. The date of each occasion that the employee was removed from current exposure to lead as well as the corresponding date on which the employee was returned to their 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.

(6) Training.

(A) After conducting any training required by this section, the employer shall

prepare a record that indicates the name and job classification of each employee trained, the date of the training, the name of the person(s) who conducted the training, and the topic(s) of the training.

(B) Training records shall be maintained for three years.

(7) 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 coatings 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.

(8) 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.

(9) 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 ensure 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 Cal/OSHA 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 1: The employer is not required to notify Cal/OSHA 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 2: The employer is not required to notify Cal/OSHA 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/cm².

(1) The employer shall ensure that the information required by subsection (p)(2) is received by the nearest Cal/OSHA 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 Cal/OSHA at any time prior to commencement of the work, followed by written notification sent or mailed within 24 hours of telephoning Cal/OSHA.

(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 Cal/OSHA, 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 Cal/OSHA 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 Cal/OSHA at least once per year a supplemental written notification updating all of the information required by subsection [\(p\)\(2\)](#) for each structure.

(q) Appendices. 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.

Credits

Note: Authority cited: Sections 142.3 and 6717, Labor Code. Reference: Sections 142.3, 144.6 and 6717, Labor Code.

History

1. New section filed 9-28-93; operative 11-4-93 pursuant to Labor Code section 142.3(a)(4) (Register 93, No. 40). This section is identical to the interim final rule adopted by the federal Occupational Safety and Health Administration on 5-4-93 and is exempt from OAL review. Pursuant to Labor Code section 142.3(a)(4)(c), this section shall remain in effect until 5-4-94 unless readopted for an additional 6 months or superseded by permanent regulations.
2. Change without regulatory effect amending opening paragraph filed 10-18-93 pursuant to title 1, section 100, California Code of Regulations (Register 93, No. 43).
3. New section refiled 4-28-94 with amendments; operative 5-4-94 pursuant to Labor Code section 142.3(a)(4) (Register 94, No. 17). This section is identical to the interim final rule adopted by the Federal Occupational Safety and Health Administration on 5-4-93 and is exempt from OAL review. Pursuant to Labor Code section 142.3(a)(4)(C), this section shall remain in effect for six months unless superseded by permanent regulations.
4. Amendment of section and amendment of Appendices headings and text filed 10-19-94; operative 10-19-94. Submitted to OAL for printing only pursuant to Labor Code section 142(a)(3) (Register 94, No. 42).
5. Change without regulatory effect amending Appendix A heading filed 2-16-95 pursuant to section 100, title 1, California Code of Regulations (Register 95, No. 7).
6. Editorial correction of subsection (d)(2)(E)5. (Register 95, No. 36).
7. Amendment of section, Appendix B and Note filed 2-5-97; operative 3-7-97 (Register 97, No. 7).

6).

8. Amendment of former subsections (f)(1)-(f)(4)(C) including subsection renumbering and relettering resulting in newly designated subsections (f)(1)-(f)(3)(B)2., amendment of Appendix B, subsection IV, and amendment repealing appendix D and adding editorial reference filed 8-25-98; operative 11-23-98 (Register 98, No. 35).

9. Change without regulatory effect amending subsection (a) filed 2-16-2000 pursuant to section 100, title 1, California Code of Regulations (Register 2000, No. 7).

10. Amendment of subsection (f)(3)(B)2. (Table I) filed 5-24-2000; operative 6-23-2000 (Register 2000, No. 21).

11. Repealer of subsection (p) and new subsections (p)-(p)(4) filed 12-26-2001; operative 1-25-2002 (Register 2001, No. 52).

12. Change without regulatory effect amending subsection (l)(3) filed 7-24-2003 pursuant to section 100, title 1, California Code of Regulations (Register 2003, No. 30).

13. Amendment of subsection (f)(2)(A) filed 7-31-2003; operative 8-30-2003 (Register 2003, No. 31).

14. Editorial correction of subsection (p)(1)(B) designator (Register 2006, No. 29).

15. Amendment of subsections (f)(3)(A)-(B) and (f)(3)(B)2. and new subsections (f)(3)(C)-(D) filed 3-6-2007; operative 3-6-2007. Submitted to OAL for printing only pursuant to Labor Code section 142.3(a)(3) (Register 2007, No. 10).

16. Change without regulatory effect amending subsection (g)(2)(D) filed 8-8-2008 pursuant to section 100, title 1, California Code of Regulations (Register 2008, No. 32).

17. Amendment of subsections (j)(2)(B), (j)(2)(D)2. and (k)(1)(C)1.a. filed 1-18-2012; operative 1-18-2012 pursuant to Labor Code section 142.3(a)(4)(C). Submitted to OAL for printing only pursuant to Labor Code section 142.3(a)(3) (Register 2012, No. 3).

18. Amendment of subsection (j)(2)(D)2. filed 9-4-2012; operative 10-4-2012 (Register 2012, No. 36).

19. Redesignation and amendment of former subsection (g)(2)(G) as new subsection (g)(2)(G)1., new subsection (g)(2)(G)2., repealer and new subsections (l) and (l)(1)(A), new subsections (l)(1)(A)1.-5., amendment of subsections within subsection (m) and amendment of Appendix B, item XI. filed 5-6-2013; operative 5-6-2013 pursuant to Labor Code section 142.3(a)(4)(C). Submitted to OAL for printing only pursuant to Labor Code section 142.3(a)(4) (Register 2013, No. 19).

20. Redesignation and amendment of former subsection (g)(2)(G) as new subsection (g)(2)(G)1., new subsection (g)(2)(G)2., repealer and new subsections (l) and (l)(1)(A), new subsections (l)(1)(A)1.-5., amendment of subsections within subsection (m) and amendment of Appendix B, item XI. refiled 11-6-2013; operative 11-6-2013 pursuant to Labor Code section 142.3(a)(4)(C). Submitted to OAL for printing only pursuant to Labor Code section 142.3(a)(4) (Register 2013, No. 45).

21. Repealer of 11-6-2013 order by operation of law 5-6-2014 pursuant to Labor Code 142.3 (Register 2014, No. 19).

22. Redesignation and amendment of former subsection (g)(2)(G) as new subsection (g)(2)(G)1.,

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new subsection (g)(2)(G)2., repealer and new subsections (l) and (l)(1)(A), new subsections (l)(1)(A)1.-5., amendment of subsections within subsection (m) and amendment of Appendix B, item XI. filed 5-5-2014; operative 5-6-2014 pursuant to Government Code section 11343.4(b)(3) (Register 2014, No. 19).

23. Amendment of section and Note filed 4-8-2024; operative 1-1-2025 pursuant to Government Code section 11343.4(b)(2) (Register 2024, No. 15).