

Minnesota OSHA lead in construction draft standard

August 2025

- 1926.62 Lead in Construction
- 1926.62(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 ~~29 CFR 1910.1025(a)(2)~~ MN Rule ~~5205.XXXX(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:
- 1926.62(a)(1) Demolition or salvage of structures where lead or materials containing lead are present;
- 1926.62(a)(2) Removal or encapsulation of materials containing lead;
- 1926.62(a)(3) New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- 1926.62(a)(4) Installation of products containing lead;
- 1926.62(a)(5) Lead contamination/emergency cleanup;
- 1926.62(a)(6) Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed,; and
- 1926.62(a)(7) Maintenance operations associated with the construction activities described in this paragraph.
- 1926.62(b) Definitions

Action level means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of ~~30~~ 10 micrograms per cubic meter of air (~~30~~ 10 µg/m³) calculated as an 8-hour time-weighted average (TWA).

~~Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.~~

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.

Commissioner means the Commissioner of the Minnesota Department of Labor and Industry.

Competent person 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.

Director means the Director, National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, 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)(i), which, until an exposure assessment as required in subsection (d) is completed, is presumed to result in employee exposure above the action level, but not greater than 10 times the action level.

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

Level 3 trigger task means a task listed in subsection (d)(2)(iv), which, until an exposure assessment as required in subsection (d) is completed, is presumed to result in employee exposure above 50 times the action level.

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 particular health care services required by this section.

Trigger task -- not listed means a task described in subsection (d)(2)(ii), which, until an exposure assessment as required in subsection (d) is completed, is presumed to result in employee exposure above the action level.

This section means this standard.

1926.62(c)

Permissible exposure limit (PEL)

- 1926.62(c)(1) The employer shall ~~assure~~ ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 µg/m³) averaged over an 8-hour period.
- 1926.62(c)(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/m³) = 400 divided by hours worked in the day.
- ~~1926.62 (c)(3) When respirators are used to limit employee exposure as required under paragraph (c) of this section and all the requirements of paragraphs (e)(1) and (f) of this section 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.~~
- 1926.62(d) Exposure assessment
- 1926.62(d)(1) General
- 1926.62(d)(1)(i) 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.
- 1926.62(d)(1)(ii) For the purposes of paragraph (d) of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.
- 1926.62(d)(1)(iii) With the exception of monitoring under paragraph (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.
- 1926.62(d)(1)(iv) Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.
- 1926.62(d)(2) Protection of employees during assessment of exposure
- 1926.62(d)(2)(i) Level 1 trigger tasks. With respect to the ~~lead-related~~ level 1 trigger tasks listed in paragraph (d)(2)(i) of this section, where lead is present, until the employer performs an employee exposure assessment as required in paragraph (d) of this section and documents that the employee performing any of the listed tasks is not exposed above the ~~PEL~~ action level, the employer shall treat the employee as if the employee were exposed above the ~~PEL~~ action level, and not in excess of ten (10) times the ~~PEL~~ action level, and shall implement ~~employee protective measures~~ interim protection as prescribed in paragraph (d)(2)(v) of this section. 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.

- 1926.62(d)(2)(i)(A) ~~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 with dust collection systems;~~
- 1926.62(d)(2)(i)(B) ~~Spray painting with lead paint~~
- 1926.62(d)(2)(ii) Trigger tasks -- not listed. In addition, with regard to tasks not listed in paragraph (d)(2)(i), where the employee has any reason to believe that an employee performing the task may be exposed to lead in excess of the PEL action level, until the employer performs an employee exposure assessment as required by paragraph (d) of this section and documents that the employee's lead exposure is not above the PEL action level the employer shall treat the employee as if the employee were exposed above the PEL action level and shall implement ~~employee protective measures~~ interim protection as prescribed in paragraph (d)(2)(v) of this section.
- 1926.62(d)(2)(iii) Level 2 trigger tasks. With respect to the level 2 trigger tasks listed in this paragraph (d)(2)(iii) of this section, where lead is present, until the employer performs an employee exposure assessment as required in this paragraph (d), and documents that the employee performing any of the listed tasks is not exposed in excess of ~~500~~ 100 µg/m³ (10x the action level), the employer shall treat the employee as if the employee were exposed to lead in excess of ~~500~~ 100 µg/m³ and shall implement ~~employee protective measures~~ interim protection as prescribed in paragraph (d)(2)(v) of this section. Where the employer does establish that the employee is exposed to levels of lead below ~~500~~ 100 µg/m³, the employer may provide the exposed employee with the appropriate respirator prescribed for such use at such lower exposures, in accordance with paragraph (f) of this section. The tasks covered by this requirement are:
- 1926.62(d)(2)(iii)(A) ~~Using lead-containing mortar; lead burning~~ Where lead-containing coatings or paint are present: manual sanding, and power tool cleaning, grinding, or sanding with dust collection systems.
- 1926.62(d)(2)(iii)(B) ~~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.~~ Spray painting with lead paint.
- 1926.62(d)(2)(iv) Level 3 trigger tasks. With respect to the level 3 trigger tasks listed in this paragraph (d)(2)(iv), where lead is present, until the employer performs an employee exposure assessment as required in this paragraph (d) and documents that the employee performing any of the listed tasks is not exposed to lead in excess of ~~2,500~~ 500 µg/m³ (50×PEL action level), the employer shall treat the employee as if the employee were exposed to lead in excess of ~~2,500~~ 500 µg/m³ and shall implement ~~employee protective measures~~ interim protection as prescribed in paragraph (d)(2)(v) of this section. Where the employer does establish that the employee is exposed to levels of lead below ~~2,500~~ 500 µg/m³, the employer may provide the exposed employee with the appropriate respirator prescribed for use at such lower exposures, in accordance with paragraph (f)

of this section. Interim protection as described in this paragraph (d)(2)(v) is required ~~where lead-containing coatings or paint are present on structures~~ when performing any of the following tasks:

- 1926.62(d)(2)(iv)(A) ~~Using lead-containing mortar or lead burning. Abrasive blasting,~~
- 1926.62(d)(2)(iv)(B) ~~Where lead-containing coatings or paint are present: Welding,~~
- 1926.62(d)(2)(iv)(B)(1) Rivet busting.
- 1926.62(d)(2)(iv)(B)(2) Power tool cleaning, grinding or sanding without dust collection systems.
- 1926.62(d)(2)(iv)(B)(3) Cleanup activities where dry expendable abrasives are used.
- 1926.62(d)(2)(iv)(B)(4) Abrasive blasting enclosure movement and removal.
- 1926.62(d)(2)(iv)(B)(5) Abrasive blasting.
- 1926.62(d)(2)(iv)(B)(6) Welding.
- 1926.62(d)(2)(iv)(B)(7) Torch cutting.
- 1926.62(d)(2)(iv)(B)(8) Torch burning.
- ~~1926.62(d)(2)(iv)(C) Cutting, and~~
- ~~1926.62(d)(2)(iv)(D) Torch burning.~~
- 1926.62(d)(2)(v) Until the employer performs an employee exposure assessment as required under paragraph (d) of this section and determines actual employee exposure, the employer shall provide to employees performing the trigger tasks as described in paragraphs (d)(2)(i), (d)(2)(ii), (d)(2)(iii) and (d)(2)(iv) of this section with interim protection as follows:
 - 1926.62(d)(2)(v)(A) Appropriate respiratory protection in accordance with paragraph (f) of this section.
 - 1926.62(d)(2)(v)(B) Appropriate personal protective clothing and equipment in accordance with paragraph (g) of this section.
 - 1926.62(d)(2)(v)(C) Change areas in accordance with paragraph (i)(2) of this section.
 - 1926.62(d)(2)(v)(D) ~~Hand washing~~ Shower facilities in accordance with paragraph (i)(~~5~~ 3) of this section, for employees performing level 3 trigger tasks listed in section (d)(2)(iv).
 - 1926.62(d)(2)(v)(E) Eating facilities or eating areas in accordance with subsection (i)(4);
 - 1926.62(d)(2)(v)(F) Regulated areas in accordance with subsection (i)(6);

- 1926.62(d)(2)(v)(G) Limiting the maximum amount of time an employee can conduct dry abrasive blasting to 5 hours per day, except that after [insert five years from the effective date here], the amount of time shall be similarly limited to 2 hours per day;
- 1926.62(d)(2)(v)(~~E~~)(H) ~~Biological monitoring~~ Medical surveillance in accordance with paragraph (j)(1)(i) and (j)(1)(ii) of this section, ~~to consist of blood sampling and analysis for lead and zinc protoporphyrin levels, and~~
- 1926.62(d)(2)(v)(~~F~~)(I) Training as required under paragraph (l)(1)(i), (l)(1)(ii) and (l)(1)(iii) of this section. ~~regarding 29 CFR 1926.59, Hazard Communication; training as required under paragraph (1)(2)(iii) of this section, regarding use of respirators; and training in accordance with 29 CFR 1926.21, Safety training and education.~~
- 1926.62(d)(3) Basis of initial determination
- 1926.62(d)(3)(i) Except as provided under paragraphs (d)(3)(iii) and (d)(3)(iv) of this section the employer shall monitor employee exposures and shall base initial determinations on the employee exposure monitoring results and any of the following, relevant considerations:
- 1926.62(d)(3)(i)(A) Any information, observations, or calculations which would indicate employee exposure to lead;
- 1926.62(d)(3)(i)(B) Any previous measurements of airborne lead; and
- 1926.62(d)(3)(i)(C) Any employee complaints of symptoms which may be attributable to exposure to lead.
- 1926.62(d)(3)(ii) 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.
- 1926.62(d)(3)(iii) 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 paragraphs (d)(3)(i) and (d)(6) of this section if the sampling and analytical methods meet the accuracy and confidence levels of paragraph (d)(9) of this section.
- 1926.62(d)(3)(iv) 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.

- 1926.62(d)(3)(iv)(A) The employer shall establish and maintain an accurate record documenting the nature and ~~relevancy~~ relevance of objective data as specified in paragraph (n)(4) of this section, where used in assessing employee exposure in lieu of exposure monitoring.
- 1926.62(d)(3)(iv)(B) Objective data, as described in paragraph (d)(3)(iv) of this section, is not permitted to be used for exposure assessment in connection with trigger tasks listed in paragraph (d)(2) of this section.
- 1926.62(d)(2)(iv)(C) Objective data for surface coatings and materials that contain lead shall meet the following methodology:
- 1926.62(d)(2)(iv)(C)(1) 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;
- 1926.62(d)(2)(iv)(C)(2) 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).
- 1926.62(d)(4) Positive initial determination and initial monitoring
- 1926.62(d)(4)(i) Where a determination conducted under paragraphs (d) (1), (2) and (3) of this section 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.
- 1926.62(d)(4)(ii) 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 paragraph (d)(4)(i) of this section if the sampling and analytical methods meet the accuracy and confidence levels of paragraph (d)(9) of this section.
- 1926.62(d)(4)(iii) 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).
- 1926.62(d)(5) Negative initial determination.

<u>1926.62(d)(5)(i)</u>	Where a determination, conducted under paragraphs (d) (1), (2), and (3) of this section 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 paragraph (d)(3)(i) of this section and shall also include the date of determination, location within the worksite, and the name <u>and another unique identifier (such as date of birth or employee identification number)</u> of each employee monitored.
<u>1926.62(d)(5)(ii)</u>	<u>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).</u>
1926.62(d)(6)	Frequency
1926.62(d)(6)(i)	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 paragraph (d)(7) of this section.
1926.62(d)(6)(ii)	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 paragraph 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 paragraph (d)(7) of this section.
1926.62(d)(6)(iii)	If the initial determination <u>or subsequent determination</u> 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 paragraph (d)(6)(ii) of this section, except as otherwise provided in paragraph (d)(7) of this section. 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 paragraph (d)(7) of this section.
1926.62(d)(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 paragraph.

1926.62(d)(8) Employee notification

1926.62(d)(8)(i) The employer must, ~~as soon as possible but no later than~~ within 5 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

1926.62(d)(8)(ii) 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.

1926.62(d)(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 percent for airborne concentrations of lead equal to or greater than ~~30~~ 10 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).

1926.62(e) Methods of compliance

1926.62(e)(1) Engineering and work practice controls. 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 paragraph (c) of this section, 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 paragraph (f) of this section.~~

1926.62(e)(2) Compliance program

1926.62(e)(2)(i) Prior to commencement of the job each employer shall establish and implement a written compliance program to achieve compliance with paragraph (c) of this section.

1926.62(e)(2)(ii) Written plans for these compliance programs shall include at least the following:

1926.62(e)(2)(ii)(A) 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;

- 1926.62(e)(2)(ii)(B) 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;
- 1926.62(e)(2)(ii)(C) 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; A report of the technology considered in meeting the PEL;
- 1926.62(e)(2)(ii)(D) Air monitoring data which documents the source of lead emissions;
- 1926.62(e)(2)(ii)(E) A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;
- 1926.62(e)(2)(ii)(F) A work practice program which includes items required under paragraphs (g), (h) and (i) of this section and incorporates other relevant work practices such as those specified in paragraph (e)(5) of this section;
- 1926.62(e)(2)(ii)(G) An administrative control schedule required by paragraph (e)(4) of this section, if applicable;
- 1926.62(e)(2)(ii)(H) 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 with respect to responsibility for compliance with this section as set forth in § 1926.16.
- 1926.62(e)(2)(ii)(I) Other relevant information
- 1926.62(e)(2)(iii) The compliance program shall provide for frequent and regular inspections of job sites, materials, and equipment to be made by a competent person.
- 1926.62(e)(2)(iv) Written programs shall be submitted upon request to any affected employee or authorized employee representatives, to the Assistant Secretary Commissioner and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary Commissioner and the Director.
- 1926.62(e)(2)(v) Written programs must be revised and updated at least annually to reflect the current status of the program. The revisions and updates shall be documented in writing, in accordance with subsection (n)(5).
- 1926.62(e)(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.
- 1926.62(e)(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:

- 1926.62(e)(4)(i) ~~Name or identification number~~ and another unique identifier (such as date of birth or employee identification number) of each affected employee;
- 1926.62(e)(4)(ii) Duration and exposure levels at each job or work station where each affected employee is located; and
- 1926.62(e)(4)(iii) Any other information which may be useful in assessing the reliability of administrative controls to reduce exposure to lead.
- 1926.62(e)(5) The employer shall ensure that, to the extent relevant, employees follow good work practices such as described in appendix B of this section.
- 1926.62(f) Respiratory protection
- 1926.62(f)(1) General. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this paragraph. Respirators must be used during:
- 1926.62(f)(1)(i) Periods when an employee's exposure to lead exceeds the PEL action level;
- 1926.62(f)(1)(ii) Work operations for which engineering and work-practice controls are not sufficient to reduce employee exposures to or below the PEL action level;
- 1926.62(f)(1)(iii) Periods when an employee requests a respirator; and
- 1926.62(f)(1)(iv) Periods when respirators are required to provide interim protection of employees while they perform ~~the operations~~ trigger tasks specified in paragraph (d)(2) of this section.
- 1926.62(f)(2) Respirator program
- 1926.62(f)(2)(i) The employer must implement a respiratory protection program in accordance with 29 CFR §1910.134(b) through (d) (except (d)(1)(iii)), and (f) through (m), which covers each employee required by this section to use a respirator.
- 1926.62(f)(2)(ii) If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination in accordance with paragraph (j)(3)(i)(B) of this section to determine whether or not the employee can use a respirator while performing the required ~~duty~~ duties.
- 1926.62(f)(3) Respirator selection
- 1926.62(f)(3)(i) Employers must:
- 1926.62(f)(3)(i)(A) Select, and provide to employees, the appropriate respirators specified in paragraph (d)(3)(i)(A) of 29 CFR 1910.134.
- 1926.62(f)(3)(i)(B) 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.

- 1926.62(f)(3)(i)(C) Provide HEPA filters for powered and non-powered air-purifying respirators.
- 1926.62(f)(3)(ii) The employer must provide a powered air-purifying respirator when an employee chooses to use such a respirator and it will provide adequate protection to the employee.
- 1926.62(g) Protective work clothing and equipment
- 1926.62(g)(1) Provision and use. Where an employee is exposed to lead above the PEL action level 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 tasks as specified in paragraph (d)(2) of this section, 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:
- 1926.62(g)(1)(i) Coveralls or similar full-body work clothing;
- 1926.62(g)(1)(ii) Gloves, hats, and shoes or disposable shoe coverlets; and
- 1926.62(g)(1)(iii) Face shields, vented goggles, or other appropriate protective equipment which complies with § 29 CFR 1910.133 of this chapter.
- 1926.62(g)(2) Cleaning and replacement
- 1926.62(g)(2)(i) The employer shall provide the protective clothing required in paragraph (g)(1) of this section in a clean and dry condition at least weekly, and daily to employees whose exposure levels without regard to a respirator are over ~~200~~ 30 µg/m³ of lead as an 8-hour TWA.
- 1926.62(g)(2)(ii) The employer shall provide for the cleaning, laundering, and disposal of protective clothing and equipment required by paragraph (g)(1) of this section.
- 1926.62(g)(2)(iii) The employer shall repair or replace required protective clothing and equipment as needed to maintain their effectiveness.
- 1926.62(g)(2)(iv) The employer shall ~~assure~~ 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 paragraph (i)(2) of this section.
- 1926.62(g)(2)(v) The employer shall ~~assure~~ 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.
- 1926.62(g)(2)(vi) 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.

- 1926.62(g)(2)(vii)(A) The employer shall ensure that the containers of contaminated protective clothing and equipment required by paragraph (g)(2)(v) 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.
- ~~1926.62(g)(2)(vii)(B) Prior to June 1, 2015, employers may include the following information on bags or containers of contaminated protective clothing and equipment required by paragraph (g)(2)(v) in lieu of the labeling requirements in paragraph (g)(2)(vii)(A) 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.~~
- 1926.62(g)(2)(viii) 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.
- 1926.62(h) Housekeeping.
- 1926.62(h)(1) All surfaces shall be maintained as free as practicable of accumulations of lead.
- 1926.62(h)(2) Floors and other surfaces where lead accumulates shall ~~wherever possible~~, be cleaned, wherever possible, by vacuuming or other methods that minimize the likelihood of lead becoming airborne.
- 1926.62(h)(3) Shoveling, dry or wet sweeping, and brushing shall not be used unless the employer can demonstrate that ~~may be used only where~~ vacuuming or other equally effective methods have been tried and found not to be effective.
- 1926.62(h)(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.
- 1926.62(h)(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.
- 1926.62(i) Hygiene facilities, ~~and practices, and regulated areas.~~
- 1926.62(i)(1) General Hygiene.
- 1926.62(i)(1)(A) The employer shall ~~assure~~ ensure that in areas where employees are 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.

<u>1926.62(i)(1)(B)</u>	<u>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 29 CFR 1910.141(d).</u>
<u>1926.62(i)(1)(C)</u>	<u>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.</u>
1926.62(i)(2)	Change areas
1926.62(i)(2)(i)	The employer shall provide clean change areas for employees whose airborne exposure to lead is above the <u>PEL action level without regard to the use of respirators</u> , and as interim protection for employees performing <u>trigger tasks as specified described in paragraph (d)(2) of this section, without regard to the use of respirators.</u>
1926.62(i)(2)(ii)	The employer shall assure <u>ensure</u> that change areas are equipped with separate storage facilities for protective work clothing and equipment, and for street clothes, which prevent cross-contamination.
1926.62(i)(2)(iii)	The employer shall assure <u>ensure</u> that employees do not <u>enter personal vehicles or leave the workplace wearing with</u> any protective clothing or equipment that is required to be worn during the work shift.
1926.62(i)(3)	Showers
1926.62(i)(3)(i)	The employer shall provide shower facilities, where feasible , for use by employees whose airborne exposure to lead is above the <u>PEL, without regard to the use of respirators, and as interim protection for employees performing level 3 trigger tasks listed in subsection (d)(2)(iv).</u> <u>Exception: Shower facilities are not required when the employer can demonstrate that shower facilities are not feasible.</u>
<u>1926.62(i)(3)(ii)</u>	<u>The employer shall ensure that required shower facilities comply with 29 CFR 1910.141(d)(3).</u>
1926.62(i)(3)(ii)(iii)	The employer shall assure <u>ensure</u> , where shower facilities are available <u>required</u> , 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.
1926.62(i)(4)	Eating facilities
1926.62(i)(4)(i)	The employer shall provide <u>readily accessible</u> lunchroom facilities or eating areas for employees whose airborne exposure to lead is above the <u>PEL action level</u> , without regard to the use of respirators, <u>and as interim protection for employees performing trigger tasks described in subsection (d)(2).</u>

- ~~1926.62(i)(4)(ii)~~ The employer shall assure that lunchroom facilities or eating areas are as free as practicable from lead contamination and are readily accessible to employees.
- ~~1926.62(i)(4)(iii)~~ 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.
- ~~1926.62(i)(4)(iv)(ii)~~ The employer shall ~~assure~~ 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 vacuuming, downdraft booth, or other cleaning method that limits dispersion of lead dust.
- 1926.62(i)(5) ~~Hand washing~~ 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 section.
- ~~1926.62(i)(5)(i)~~ The employer shall provide adequate handwashing facilities for use by employees exposed to lead in accordance with 29 CFR 1926.51(f).
- ~~1926.62(i)(5)(ii)~~ Where showers are not provided the employer shall assure that employees wash their hands and face at the end of the work shift.
- 1926.62(i)(6) Regulated areas.
- 1926.62(i)(6)(i) 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 action level without regard to the use of respirators, and as interim protection for employees performing trigger tasks described in subsection (d)(2).
- 1926.62(i)(6)(ii) Regulated areas shall be posted with signs as described in subsection (m)(1).
- 1926.62(i)(6)(iii) 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 Commissioner or Director.
- 1926.62(i)(6)(iv) 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).
- 1926.62(j) Medical surveillance.
- 1926.62(j)(1) General.
- 1926.62(j)(1)(i) The employer shall make available initial ~~medical surveillance~~ blood lead testing to employees: ~~occupationally exposed on any day to lead at or above the action level.~~ Initial medical surveillance consists of biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels.

- 1926.62(j)(1)(i)(A) Prior to assignment to work where exposure to lead is or is reasonably expected to be at or above the action level; and
- Exception: Initial blood lead testing is not required for an employee who has had a blood lead test in the preceding two months.
- 1926.62(j)(1)(i)(B) 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).
- 1926.62(j)(1)(ii) The employer shall institute a medical surveillance program in accordance with paragraphs (j)(2) and (j)(3); ~~of this section~~
- 1926.62(j)(1)(ii)(A) For all employees who are or may be exposed by the employer to lead at or above the action level for more than 30 days in any consecutive 12 months; and
- 1926.62(j)(1)(ii)(B) 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.
- 1926.62(j)(1)(iii) The employer shall ~~assure~~ ensure that all medical examinations and procedures are performed by ~~or under the supervision of a licensed physician~~ PLHCP.
- 1926.62(j)(1)(iv) The employer shall make available the required medical surveillance including multiple ~~physician~~ PLHCP review under paragraph (j)(3)(iii) without cost to employees and at a reasonable time and place.
- 1926.62(j)(1)(v) 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:
- 1926.62(j)(1)(v)(A) Employee name, date of birth, address, and phone number; and
- 1926.62(j)(1)(v)(B) Employer name, address, and phone number.
- 1926.62(j)(2) ~~Biological monitoring~~ Blood lead testing.
- 1926.62(j)(2)(i) ~~Blood lead and ZPP level sampling and analysis testing schedule.~~ The employer shall make available ~~biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels~~ blood lead testing to each employee covered under paragraphs (j)(1)(i) and (ii) of this section on the following schedule:

- 1926.62(j)(2)(i)(A) For each employee covered under paragraph (j)(1)(ii) of this section, initially in accordance with subsection (j)(1)(i), and then at least every 2 months for the first 6 months after initial placement, and then every 6 months thereafter;
- 1926.62(j)(2)(i)(B) For each employee covered under subsection (j)(1)(ii), 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; For each employee covered under paragraphs (j)(1) (i) or (ii) of this section whose last blood sampling and analysis indicated a blood lead level at or above 40 µg/dl, at least every two months. This frequency shall continue until two consecutive blood samples and analyses indicate a blood lead level below 40 µg/dl; and
- 1926.62(j)(2)(i)(C) 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;
- 1926.62(j)(2)(i)(~~C~~)(D) 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; For each employee who is removed from exposure to lead due to an elevated blood lead level at least monthly during the removal period.
- 1926.62(j)(2)(i)(E) At least monthly, as interim protection in accordance with subsection (d)(2)(v), for each employee performing a level 3 trigger task as listed in subsection (d)(2)(iv), including a blood test taken within 3 days after discontinuing all level 3 trigger task work; and
- 1926.62(j)(2)(i)(F) 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.
- 1926.62(j)(2)(ii) 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 paragraph (k)(1)(i) of this section, 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.
- 1926.62(j)(2)(~~iii~~)(ii) Accuracy of blood lead level sampling and analysis testing. Blood lead level sampling and analysis testing provided pursuant to this section shall 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 include analysis by a Clinical Laboratory Improvement Amendments (CLIA)-approved laboratory (under the federal CLIA regulations, 42 CFR Part 493).

- 1926.62(j)(2)(iv)(iii) ~~Employee notification~~ Employer notification to the employee. Within five working days after the receipt of ~~biological monitoring~~ blood lead test results, the employer shall notify each employee in writing: ~~of his or her blood lead level; and~~
- 1926.62(j)(2)(iv)(A)
- 1926.62(j)(2)(iii)(A) Of that employee's blood lead level;
- 1926.62(j)(2)(iii)(B) 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 (j)(1)(ii). 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
- 1926.62(j)(2)(iv)(B)(iii)(C) 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 paragraph (k)(1)(i) of this section 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)(i).
- 1926.62(j)(2)(iv) 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:
- 1926.62(j)(2)(iv)(A) The results of the blood lead test;
- 1926.62(j)(2)(iv)(B) Any recommended follow-up blood lead testing in accordance with subsection (j)(2)(i) and the timing of that recommended blood lead testing; and
- 1926.62(j)(2)(iv)(C) 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.
- 1926.62(j)(2)(v) Elevated blood lead level response.
- 1926.62(j)(2)(v)(A) 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.

- 1926.62(j)(2)(v)(B) 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)(v)(A).
- Exception: A written elevated blood lead level response plan, training and instruction, as specified in subsection (j)(2)(v), 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.
- 1926.62(j)(3) Medical examinations and consultations.
- 1926.62(j)(3)(i) Frequency. The employer shall make available medical examinations and consultations to each employee covered under paragraph (j)(1)(ii) of this section on the following schedule:
- 1926.62(j)(3)(i)(A) 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; At least annually 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 40 µg/dl;
- 1926.62(j)(3)(i)(B) Prior to assignment for each employee covered by subsection (j)(1)(ii);
- 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.
- 1926.62(j)(3)(i)(B)(C) 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
- 1926.62(j)(3)(i)(C)(D) As soon as possible, and then as medically appropriate, for each employee either removed from exposure to lead due to a risk of sustaining material impairment to health, or elevated blood lead levels in compliance with the provisions of subsection (k)(1)(i), or whose exposure to lead is otherwise limited pursuant to a final medical determination in compliance with the provisions of subsection (k)(1)(ii).
- 1926.62(j)(3)(ii) Content. The content of medical examinations made available pursuant to paragraph (j)(3)(i)(B)-(C) of this section ~~shall be determined by an examining physician and, if requested by an employee, shall include pregnancy testing or laboratory evaluation of male fertility.~~ shall include the following elements:
- 1926.62(j)(3)(ii)(A) 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;

- 1926.62(j)(3)(ii)(B) 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;
- 1926.62(j)(3)(ii)(C) A blood pressure measurement;
- 1926.62(j)(3)(ii)(D) A blood sample and analysis which determines:
- 1926.62(j)(3)(ii)(D)(1) Blood lead level;
- 1926.62(j)(3)(ii)(D)(2) Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral smear morphology;
- 1926.62(j)(3)(ii)(D)(3) Zinc protoporphyrin for each employee whose last blood lead level was at or above 20 µg/dl;
- 1926.62(j)(3)(ii)(D)(4) Blood urea nitrogen; and,
- 1926.62(j)(3)(ii)(D)(5) Serum creatinine;
- 1926.62(j)(3)(ii)(E) A routine urinalysis with microscopic examination; and
- 1926.62(j)(3)(ii)(F) Any laboratory or other test relevant to lead exposure which the examining ~~physician~~ PLHCP deems necessary by sound medical practice.
- 1926.62(j)(3)(iii) Multiple ~~physician~~ PLHCP review mechanism.
- 1926.62(j)(3)(iii)(A) If the employer selects the initial ~~physician~~ PLHCP who conducts any medical examination or consultation provided to an employee under this section, the employee may designate a second ~~physician~~ PLHCP:
- 1926.62(j)(3)(iii)(A)(1) To review any findings, determinations or recommendations of the initial ~~physician~~ PLHCP; and
- 1926.62(j)(3)(iii)(A)(2) To conduct such examinations, consultations, and laboratory tests as the second ~~physician~~ PLHCP deems necessary to facilitate this review.
- 1926.62(j)(3)(iii)(B) The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial ~~physician~~ PLHCP conducts a medical examination or consultation pursuant to this section. The employer may condition its participation in, and payment for, the multiple ~~physician~~ PLHCP 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~~ PLHCP's written opinion, whichever is later:

- 1926.62(j)(3)(iii)(B)(1) The employee informing the employer that ~~he or she~~ they intend to seek a second medical opinion, and
- 1926.62(j)(3)(iii)(B)(2) The employee initiating steps to make an appointment with a second ~~physician~~ PLHCP.
- 1926.62(j)(3)(iii)(C) If the findings, determinations or recommendations of the second ~~physician~~ PLHCP differ from those of the initial ~~physician~~ PLHCP, then the employer and the employee shall ~~assure~~ ensure that efforts are made for the two ~~physicians~~ PLHCPs to resolve any disagreement.
- 1926.62(j)(3)(iii)(D) If the two ~~physicians~~ PLHCPs have been unable to quickly resolve their disagreement, then the employer and the employee through their respective ~~physicians~~ PLHCPs shall designate a third ~~physician~~ PLHCP:
- 1926.62(j)(3)(iii)(D)(1) To review any findings, determinations or recommendations of the prior ~~physicians~~ PLHCPs; and
- 1926.62(j)(3)(iii)(D)(2) To conduct such examinations, consultations, laboratory tests and discussions with the prior ~~physicians~~ PLHCPs as the third ~~physician~~ PLHCP deems necessary to resolve the disagreement of the prior ~~physicians~~ PLHCPs.
- 1926.62(j)(3)(iii)(E) The employer shall act consistent with the findings, determinations and recommendations of the third ~~physician~~ PLHCP, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three ~~physicians~~ PLHCPs.
- 1926.62(j)(3)(iv) Information provided to examining and consulting ~~physicians~~ PLCHPs
- 1926.62(j)(3)(iv)(A) The employer shall provide an initial ~~physician~~ PLHCP conducting a medical examination or consultation under this section with the following information:
- 1926.62(j)(3)(iv)(A)(1) A copy of this regulation for lead including all Appendices;
- 1926.62(j)(3)(iv)(A)(2) A description of the affected employee's duties as they relate to the employee's exposure;
- 1926.62(j)(3)(iv)(A)(3) The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if applicable);
- 1926.62(j)(3)(iv)(A)(4) A description of any personal protective equipment used or to be used;
- 1926.62(j)(3)(iv)(A)(5) Prior blood lead test results; ~~determinations, and~~
- 1926.62(j)(3)(iv)(A)(6) All prior written medical opinions concerning the employee in the employer's possession or control; and
- 1926.62(j)(3)(iv)(A)(7) A copy of the written elevated blood lead level response plan for that employee as required by subsection (j)(2)(v)(A).

- 1926.62(j)(3)(iv)(B) The employer shall provide the foregoing information to a second or third ~~physician~~ PLHCP conducting a medical examination or consultation under this section upon request either by the second or third ~~physician~~ PLHCP, or by the employee.
- 1926.62(j)(3)(v) ~~Written medical opinions.~~ PLCHP'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:
- 1926.62(j)(3)(v)(A) ~~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:~~
- 1926.62(j)(3)(v)(A)(1) ~~The physician's~~ PLHCP's opinion as to whether the employee has any detected ~~medical health related~~ condition which would place the employee's health, including the ability to procreate a healthy child, at increased risk of material impairment ~~of the employee's health~~ from exposure to lead;
- 1926.62(j)(3)(v)(A)(2)(B) ~~Any recommended special protective measures to be provided to the employee, or recommended~~ limitations to be placed upon the employee's exposure to lead;
- 1926.62(j)(3)(v)(A)(3)(C) ~~Any recommended limitations upon the employee's use of respirators, including a determination of whether the employee can~~ should wear a powered air purifying respirator ~~if a physician determines that the employee cannot wear instead of a non-powered air purifying a negative pressure respirator; and~~
- 1926.62(j)(3)(v)(A)(4)(D) ~~The results of the employee's blood lead determinations~~ test results;
- 1926.62(j)(3)(v)(E) Any recommended follow-up blood lead testing and medical examinations and the timing of each; and
- 1926.62(j)(3)(v)(F) 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.
- 1926.62(j)(3)(vi) PLHCP's written medical opinion for the employer.
- 1926.62(j)(3)(vi)(A) 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)(v)(A) through (j)(3)(v)(F), except as specified in subsection (j)(3)(vi)(B).
- 1926.62(j)(3)(v)(vi)(B) ~~The employer shall instruct each the examining and consulting physician PLHCP to: not reveal~~ include either in the written opinion ~~or orally to the employer~~, or in any other means of communication with the employer, findings, including laboratory results, or diagnoses unrelated to ~~an~~ the employee's occupational exposure to lead;~~and~~

~~1926.62(j)(3)(v)(B)(1)~~

~~1926.62(j)(3)(v)(B)(2)~~ Advise the employee of any medical condition, occupational or nonoccupational, which dictates further medical examination or treatment.

~~1926.62(j)(3)(vi)(vii)~~ Alternate ~~physician~~ PLHCP determination mechanisms. The employer and an employee or authorized employee representative may agree upon the use of any alternate ~~physician~~ PLHCP determination mechanism in lieu of the multiple ~~physician~~ PLHCP review mechanism provided by paragraph (j)(3)(iii) of this section so long as the alternate mechanism is as expeditious and protective as the requirements contained in this paragraph.

1926.62(j)(4) Chelation.

1926.62(j)(4)(i) The employer shall ~~assure~~ ensure that any person whom ~~he the employer~~ retains, employs, supervises or controls does not engage in prophylactic chelation of any employee at any time.

1926.62(j)(4)(ii) If therapeutic or diagnostic chelation is to be performed by any person in paragraph (j)(4)(i) of this section, the employer shall ~~assure~~ ensure that it be done ~~under the supervision of a licensed physician~~ 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.

1926.62(k) Medical removal protection.

1926.62(k)(1) Temporary medical removal and return of an employee.

1926.62(k)(1)(i) 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: 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 50 µg/dl; and,

1926.62(k)(1)(i)(A) The last blood lead test indicates that the employee's blood lead level is at or above 30 µg/dl;

1926.62(k)(1)(i)(B) Effective [insert one year from effective date], the last two blood lead test results are at or above 20 µg/dl; or

1926.62(k)(1)(i)(C) Effective [insert one year from effective date], 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.

1926.62(k)(1)(ii) Temporary removal due to a final medical determination.

- 1926.62(k)(1)(ii)(A) 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 ~~medical~~ health-related condition which places the employee's health, including the ability to procreate a healthy child, at increased risk of material impairment ~~to health~~ from exposure to lead.
- 1926.62(k)(1)(ii)(B) 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~~ PLHCP or, where relevant, the outcome of the multiple ~~physician~~ PLHCP review mechanism or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section.
- 1926.62(k)(1)(ii)(C) 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.
- 1926.62(k)(1)(iii) Return of the employee to former job status.
- 1926.62(k)(1)(iii)(A) The employer shall return an employee to ~~his or her~~ their former job status:
- 1926.62(k)(1)(iii)(A)(1) For an employee removed under the provisions of subsection (k)(1)(i), due to a blood lead level at or above 50 µg/dl when two consecutive blood sampling-lead tests, taken at least 30 days apart, both indicate that the employee's blood lead level is below ~~40~~ 15 µg/dl; and
- 1926.62(k)(1)(iii)(A)(2) 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~~ health-related condition which places the employee's health, including the ability to procreate a healthy child, at increased risk of material impairment ~~to health~~ from exposure to lead.
- 1926.62(k)(1)(iii)(B) For the purposes of this section, the requirement that an employer return an employee to ~~his or her~~ 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.
- 1926.62(k)(1)(iv) 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.

- 1926.62(k)(1)(v) Employer options pending a final medical determination. Where the multiple physician PLHCP review mechanism, or alternate ~~medical~~ 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:
- 1926.62(k)(1)(v)(A) 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~~ PLHCP's who have reviewed the employee's health status.
- 1926.62(k)(1)(v)(B) Return. The employer may return the employee to ~~his or her~~ 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 ~~physicians~~ PLHCP's who have reviewed the employee's health status, ~~with two exceptions.~~
- 1926.62(k)(1)(v)(B)(1) 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 ~~physician~~ PLHCP; or
- 1926.62(k)(1)(v)(B)(2) 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.
- 1926.62(k)(2) Medical removal protection benefits.
- 1926.62(k)(2)(i) 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.
- 1926.62(k)(2)(ii) 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~~ their former job status as though the employee had not been medically removed from the employee's job or otherwise medically limited.
- 1926.62(k)(2)(iii) 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~~ 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.

- 1926.62(k)(2)(iv) 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.
- 1926.62(k)(2)(v) 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.
- 1926.62(k)(2)(vi) 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~~ health-related condition, the employer shall provide medical removal protection benefits to the employee equal to that required by paragraph (k)(2)(i) and (ii) of this section.
- 1926.62(l) Communication of hazards.
- 1926.62(l)(1) General.
- 1926.62(l)(1)(i) Hazard communication. The employer shall include lead in the program established to comply with the Hazard Communication Standard (HCS) (§29 CFR 1910.1200). 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 paragraph (l) of this section. The employer shall ensure that at least the following hazards are addressed:
- 1926.62(l)(1)(i)(A) Cardiovascular effects;
- 1926.62(l)(1)(i)(~~A~~)(B) Reproductive/developmental toxicity;
- 1926.62(l)(1)(i)(~~B~~)(C) Central nervous system effects;
- 1926.62(l)(1)(i)(~~C~~)(D) Kidney effects;
- 1926.62(l)(1)(i)(~~D~~)(E) Blood effects; and
- 1926.62(l)(1)(i)(~~E~~)(F) Acute toxicity effects.
- 1926.62(l)(1)(ii) 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. each employee who is subject to exposure to lead at or above the action level on any day, or who is subject to exposure to lead compounds which may cause skin or eye irritation (e.g., lead arsenate, lead azide), in accordance with the requirements of this section. The employer shall institute a training program and ensure employee participation in the program.~~

- 1926.62(l)(1)(iii) ~~For the employees listed below, the employer shall provide a training program in accordance with subsection (l)(2) and ensure employee participation: The employer shall provide the training program as initial training prior to the time of job assignment or prior to the start up date for this requirement, whichever comes last.~~
- 1926.62(l)(1)(iii)(A) For employees who are exposed to lead at or above the action level on any day;
- 1926.62(l)(1)(iii)(B) For employees who are exposed to lead that may cause skin or eye irritation (e.g. lead arsenate, lead azide); or
- 1926.62(l)(1)(iii)(C) As interim protection, for employees who perform trigger tasks described in subsection (d)(2).
- 1926.62(l)(1)(iv) ~~The employer shall ensure that the training, and any training materials used, is appropriate to the educational level, literacy level, and language of employees. 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.~~
- 1926.62(l)(1)(v) For each employee covered by subsection (l)(1)(iii), 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.
- 1926.62(l)(2) ~~Training program. The employer shall assure ensure that effective training on the following topics is provided for each employee is trained in the following covered by subsection (l)(1)(iii):~~
- 1926.62(l)(2)(i) ~~The content of this standard and its appendices;~~
- 1926.62(l)(2)(ii) ~~The specific nature of the operations which could result in exposure to lead above the action level;~~
- 1926.62(l)(2)(iii) The purpose and content of, and methods used to comply with, the hygiene requirements specified in subsections (i)(2) through (i)(4);
- 1926.62(l)(2)(~~iii~~)(iv) ~~The purpose, proper selection, fitting, use, and limitations of respirators;~~
- 1926.62(l)(2)(~~iv~~)(v) ~~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);~~

- 1926.62(l)(2)(vi) The health effects of exposure to lead (with particular attention to cardiovascular effects), including low-level chronic exposure;
- 1926.62(l)(2)(vii) 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;
- 1926.62(l)(2)(viii) The employer's duty, as required by subsection (j)(3)(i), 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)(ii);
- 1926.62(l)(2)(ix) The routes of exposure to lead, including inhalation of airborne lead and ingestion of lead from contaminated hands and other surfaces;
- 1926.62(l)(2)(x) 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;
- 1926.62(l)(2)(xi) 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)(iv), the employer must provide shower facilities and ensure that employees shower at the end of the work shift, in accordance with subsection (i)(3).
- 1926.62(l)(2)(~~vi~~)(xii) The engineering controls and work practices associated with the employee's job assignment, ~~and including training of employees to follow relevant good~~ in following applicable work practices described in appendix B of this section;
- 1926.62(l)(2)(~~vi~~)(xiii) The contents of any compliance plan and location of regulated areas in effect;
- 1926.62(l)(2)(~~vii~~)(xiv) Instructions to employees that chelating agents should not routinely be used to remove lead from ~~their bodies~~ the body and should not be used at all except under the direction of a licensed physician ~~by a PLHCP~~; and
- 1926.62(l)(2)(viii)(xv) The employee's right of access to ~~their exposure and medical~~ records under 29 CFR 1910.1020.
- 1926.62(l)(3) Access to information and training materials.
- 1926.62(l)(3)(i) The employer shall make readily available to all affected employees a copy of this standard and its appendices.

- 1926.62(l)(3)(ii) The employer shall provide, upon request, all materials relating to the employee information ~~and~~ training program to affected employees, ~~and~~ their designated representatives, and to the ~~Assistant Secretary~~ Commissioner and the Director.
- 1926.62(m) Signs.
- 1926.62(m)(1) General.
- 1926.62(m)(1)(i) 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 PEL 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
- 1926.62(m)(1)(ii) The employer shall ensure that no statement appears on or near any sign required by this paragraph (m) that contradicts or detracts from the meaning of the required sign.
- 1926.62(m)(1)(iii) The employer shall ensure that signs required by this paragraph (m) are illuminated and cleaned as necessary so that the legend is readily visible.
- 1926.62(m)(1)(iv) The employer may use signs required by other statutes, regulations or ordinances in addition to, or in combination with, signs required by this paragraph (m).
- 1926.62(m)(1)(v) The employer shall ensure that warning signs required by subsection (m) are in a language understandable to employees.
- 1926.62(m)(1)(v) ~~Prior to June 1, 2016, employers may use the following legend in lieu of that specified in paragraph (m)(1)(i) of this section:~~
- ~~WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING~~
- 1926.62(n) Recordkeeping.
- 1926.62(n)(1) Exposure assessment.
- 1926.62(n)(1)(i) The employer shall establish and maintain an accurate record of all monitoring and other data used in conducting employee exposure assessments as required in paragraph (d) of this section.
- 1926.62(n)(1)(ii) Exposure monitoring records shall include:

- 1926.62(n)(1)(ii)(A) 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;
- 1926.62(n)(1)(ii)(B) A description of the sampling and analytical methods used and evidence of their accuracy;
- 1926.62(n)(1)(ii)(C) The type of respiratory protective devices worn, if any;
- 1926.62(n)(1)(ii)(D) 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
- 1926.62(n)(1)(ii)(E) 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. The environmental variables that could affect the measurement of employee exposure.
- 1926.62(n)(1)(iii) The employer shall maintain monitoring and other exposure assessment records in accordance with the provisions of 29 CFR 1910.331020.
- 1926.62(n)(2) Written compliance program review. Records of the annual revision and update of the employer's written compliance program, required under subsection (e)(2)(i), 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.
- 1926.62(n)(2)(3) Medical surveillance.
- 1926.62(n)(2)(3)(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (j) of this section.
- 1926.62(n)(2)(3)(ii) This record shall include:
- 1926.62(n)(2)(3)(ii)(A) The name, another unique identifier (such as date of birth or employee identification number), and description of the duties of the employee;
- 1926.62(n)(2)(3)(ii)(B) A copy of the ~~physician's~~ PLHCP's written opinions;
- 1926.62(n)(2)(3)(ii)(C) Results of any airborne exposure monitoring done on or for that employee and provided to the ~~physician~~ PLHCP; and
- 1926.62(n)(2)(3)(ii)(D) Any employee medical complaints related to exposure to lead.
- 1926.62(n)(2)(3)(iii) The employer shall keep, or ~~assure~~ ensure that the examining ~~physician~~ PLHCP keeps, the following medical records:

- 1926.62(n)(2)(3)(iii)(A) A copy of the medical examination results including medical and work history required under paragraph (j) of this section;
- 1926.62(n)(2)(3)(iii)(B) 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;
- 1926.62(n)(2)(3)(iii)(C) A copy of the results of ~~biological monitoring~~ blood lead testing.
- 1926.62(n)(2)(3)(iv) The employer shall maintain or ~~assure~~ ensure that the ~~physician~~ PLHCP maintains medical records in accordance with the provisions of 29 CFR 1910.33 ~~1020~~.
- 1926.62(n)(4) Written elevated blood lead level response plans. Written elevated blood lead level response plans, required under subsection (j)(2)(v), shall be retained for three years.
- 1926.62(n)(3)(5) Medical removals.
- 1926.62(n)(3)(5)(i) The employer shall establish and maintain an accurate record for each employee removed from current exposure to lead pursuant to paragraph (k) of this section.
- 1926.62(n)(3)(5)(ii) Each record shall include:
- 1926.62(n)(3)(5)(ii)(A) The name and another unique identifier (such as date of birth or employee identification number) of the employee;
- 1926.62(n)(3)(5)(ii)(B) 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 ~~his or her~~ their former job status;
- 1926.62(n)(3)(5)(ii)(C) A brief explanation of how each removal was or is being accomplished; and
- 1926.62(n)(3)(5)(ii)(D) A statement with respect to each removal indicating whether or not the reason for the removal was an elevated blood lead level.
- 1926.62(n)(3)(5)(iii) The employer shall maintain each medical removal record for at least the duration of an employee's employment.
- 1926.62(n)(6) Training
- 1926.62(n)(6)(i) 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.
- 1926.62(n)(6)(ii) Training records shall be maintained for three years.
- 1926.62(n)(4)(7) Objective data for exemption from requirement for initial monitoring.
- 1926.62(n)(4)(7)(i) 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 or materials, 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.

- 1926.62(n)(4)(7)(ii) The employer shall maintain the record of the objective data relied upon for at least 30 years.
- 1926.62(n)(5)(8) Availability. The employer shall make available upon request all records required to be maintained by paragraph (n) of this section to affected employees, former employees, and their designated representatives, and to the ~~Assistant Secretary~~ Commissioner and the Director for examination and copying.
- 1926.62(n)(6)(9) Transfer of records.
- 1926.62(n)(6)(9)(i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by paragraph (n) of this section.
- 1926.62(n)(6)(9)(ii) The employer shall also comply with any additional requirements involving the transfer of records set forth in 29 CFR 1910.1020(h).
- 1926.62(o) Observation of monitoring.
- 1926.62(o)(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 paragraph (d) of this section.
- 1926.62(o)(2) Observation procedures.
- 1926.62(o)(2)(i) 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 ensure the use of such respirators, clothing and equipment, and shall require the observer to comply with all other applicable safety and health procedures.
- 1926.62(o)(2)(ii) Without interfering with the monitoring, observers shall be entitled to:
- 1926.62(o)(2)(ii)(A) Receive an explanation of the measurement procedures;
- 1926.62(o)(2)(ii)(B) Observe all steps related to the monitoring of lead performed at the place of exposure; and
- 1926.62(o)(2)(ii)(C) Record the results obtained or receive copies of the results when returned by the laboratory.

1926.62(p)

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.

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