

**Regulations (Standards - 29 CFR)**  
**Lead. - 1910.1025**

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• <b>Part Number:</b>	1910
• <b>Part Title:</b>	Occupational Safety and Health Standards
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**1910.1025(a)**

Scope and application.

**1910.1025(a)(1)**

This section applies to all occupational exposure to lead, except as provided in paragraph (a)(2).

**1910.1025(a)(2)**

This section does not apply to the construction industry or to agricultural operations covered by 29 CFR 1

**1910.1025(b)**

Definitions.

"Action level" means employee exposure, without regard to the use of respirators, to an airborne concentration of lead at or above 30 micrograms per cubic meter over an 8-hour period.

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

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

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

**1910.1025(c)**

Permissible exposure limit (PEL).

**1910.1025(c)(1)**

The employer shall assure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter over an 8-hour period.

**1910.1025(c)(2)**

If an employee is exposed to lead for more than 8 hours in any work day, the permissible exposure limit, following formula:

Maximum permissible limit (in ug/m<sup>3</sup>)=400 divided by hours worked in the day.

**..1910.1025(c)(3)**

**1910.1025(c)(3)**

When respirators are used to supplement engineering and work practice controls to comply with the PEL, the purpose of determining whether the employer has complied with the PEL, may be considered to be at respirator is worn. Those periods may be averaged with exposure levels during periods when respirators :

**1910.1025(d)**

Exposure monitoring -

**1910.1025(d)(1)**

General.

**1910.1025(d)(1)(i)**

For the purposes of paragraph (d), employee exposure is that exposure which would occur if the employee

**1910.1025(d)(1)(ii)**

With the exception of monitoring under paragraph (d)(3), the employer shall collect full shift (for at least for each job classification in each work area.

**1910.1025(d)(1)(iii)**

Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to

**1910.1025(d)(2)**

Initial determination. Each employer who has a workplace or work operation covered by this standard sh

**1910.1025(d)(3)**

Basis of initial determination.

**1910.1025(d)(3)(i)**

The employer shall monitor employee exposures and shall base initial determinations on the employee ex

***..1910.1025(d)(3)(i)(A)***

**1910.1025(d)(3)(i)(A)**

Any information, observations, or calculations which would indicate employee exposure to lead;

**1910.1025(d)(3)(i)(B)**

Any previous measurements of airborne lead; and

**1910.1025(d)(3)(i)(C)**

Any employee complaints of symptoms which may be attributable to exposure to lead.

**1910.1025(d)(3)(ii)**

Monitoring for the initial determination may be limited to a representative sample of the exposed employee concentrations of lead in the workplace.

**1910.1025(d)(3)(iii)**

Measurements of airborne lead made in the preceding 12 months may be used to satisfy the requirement to meet the accuracy and confidence levels of paragraph (d)(9) of this section.

**1910.1025(d)(4)**

Positive initial determination and initial monitoring.

**1910.1025(d)(4)(i)**

Where a determination conducted under paragraphs (d)(2) and (3) of this section shows the possibility of monitoring which is representative of the exposure for each employee in the workplace who is exposed to

***..1910.1025(d)(4)(ii)***

**1910.1025(d)(4)(ii)**

Measurements of airborne lead made in the preceding 12 months may be used to satisfy this requirement levels of paragraph (d)(9) of this section.

**1910.1025(d)(5)**

Negative initial determination. Where a determination, conducted under paragraphs (d)(2) and (3) of this section is at or above the action level, the employer shall make a written record of such determination. The record shall also include the date of determination, location within the worksite, and the name and social security number of the employee.

**1910.1025(d)(6)**

Frequency.

**1910.1025(d)(6)(i)**

If the initial monitoring reveals employee exposure to be below the action level the measurements need n

**1910.1025(d)(6)(ii)**

If the initial determination or subsequent monitoring reveals employee exposure to be at or above the acti  
monitoring in accordance with this paragraph at least every 6 months. The employer shall continue moni  
taken at least 7 days apart, are below the action level at which time the employer may discontinue monitc  
section.

**..1910.1025(d)(6)(iii)**

**1910.1025(d)(6)(iii)**

If the initial monitoring reveals that employee exposure is above the permissible exposure limit the empl  
the required frequency until at least two consecutive measurements, taken at least 7 days apart, are below  
monitoring for that employee at the frequency specified in paragraph (d)(6)(ii), except as otherwise provi

**1910.1025(d)(7)**

Additional monitoring. Whenever there has been a production, process, control or personnel change whic  
any other reason to suspect a change which may result in new or additional exposures to lead, additional

**1910.1025(d)(8)**

Employee notification.

**1910.1025(d)(8)(i)**

Within 5 working days after the receipt of monitoring results, the employer shall notify each employee in

**1910.1025(d)(8)(ii)**

Whenever the results indicate that the representative employee exposure, without regard to respirators, ex  
notice a statement that the permissible exposure limit was exceeded and a description of the corrective ac  
limit.

**..1910.1025(d)(9)**

**1910.1025(d)(9)**

Accuracy of measurement. The employer shall use a method of monitoring and analysis which has an acc  
airborne concentrations of lead equal to or greater than 30 ug/m(3).



***..1910.1025(e)(2)***

**1910.1025(e)(2)**

Respiratory protection. Where engineering and work practice controls do not reduce employee exposure supplement these controls with respirators in accordance with paragraph (f).

**1910.1025(e)(3)**

Compliance program.

**1910.1025(e)(3)(i)**

Each employer shall establish and implement a written compliance program to reduce exposures to or be means of engineering and work practice controls in accordance with the implementation schedule in para

**1910.1025(e)(3)(ii)**

Written plans for these compliance programs shall include at least the following:

**1910.1025(e)(3)(ii)(A)**

A description of each operation in which lead is emitted; e.g. machinery used, material processed, contro maintenance practices;

**1910.1025(e)(3)(ii)(B)**

A description of the specific means that will be employed to achieve compliance, including engineering p lead;

**1910.1025(e)(3)(ii)(C)**

A report of the technology considered in meeting the permissible exposure limit;

**1910.1025(e)(3)(ii)(D)**

Air monitoring data which documents the source of lead emissions;

***..1910.1025(e)(3)(ii)(E)***

**1910.1025(e)(3)(ii)(E)**

A detailed schedule for implementation of the program, including documentation such as copies of purch

**1910.1025(e)(3)(ii)(F)**



Duration and exposure levels at each job or work station where each affected employee is located; and

**1910.1025(e)(5)(iii)**

Any other information which may be useful in assessing the reliability of administrative controls to reduce

**1910.1025(f)**

***Respiratory protection.***

**1910.1025(f)(1)**

**General.** For employees who use respirators required by this section, the employer must provide respiratory protection during:

**1910.1025(f)(1)(i)**

Periods necessary to install or implement engineering or work-practice controls.

**1910.1025(f)(1)(ii)**

Work operations for which engineering and work-practice controls are not sufficient to reduce employee

***..1910.1025(f)(1)(iii)***

**1910.1025(f)(1)(iii)**

Periods when an employee requests a respirator.

**1910.1025(f)(2)**

***Respirator program.***

**1910.1025(f)(2)(i)**

The employer must implement a respiratory protection program in accordance with 29 CFR 1910.134 (b)

**1910.1025(f)(2)(ii)**

If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the information of this section to determine whether or not the employee can use a respirator while performing the required

TABLE II.—RESPIRATORY PROTECTION FOR LEAD AEROSOLS

Airborne concentration of lead or condition of use	Required respirator
Not in excess of 0.5 mg/m <sup>3</sup> (10X PEL) .....	Half-mask, air-purifying respirator equipped with high efficiency filters. <sup>2,3</sup>
Not in excess of 2.5 mg/m <sup>3</sup> (50X PEL) .....	Full facepiece, air-purifying respirator with high efficiency filters. <sup>3</sup>
Not in excess of 50 mg/m <sup>3</sup> (1000X PEL) .....	(1) Any powered, air-purifying respirator with high efficiency filters <sup>3</sup> ; or (2) Half-mask supplied-air respirator operated in positive-pressure mode. <sup>2</sup>
Not in excess of 100 mg/m <sup>3</sup> (2000X PEL) .....	Supplied-air respirators with full facepiece, hood, helmet, or suit, operated in positive pressure mode.
Greater than 100 mg/m <sup>3</sup> , unknown concentration or fire fighting.	Full facepiece, self-contained breathing apparatus operated in positive-pressure mode.

<sup>1</sup> Respirators specified for high concentrations can be used at lower concentrations of lead.

<sup>2</sup> Full facepiece is required if the lead aerosols cause eye or skin irritation at the use concentrations.

<sup>3</sup> A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron size particles.

**1910.1025(f)(3)**

Respirator selection.

**1910.1025(f)(3)(i)**

The employer must select the appropriate respirator or combination of respirators from Table II of this se

**1910.1025(f)(3)(ii)**

The employer must provide a powered air-purifying respirator instead of the respirator specified in Table such a respirator provides adequate protection to the employee.

**..1910.1025(g)**

**1910.1025(g)**

Protective work clothing and equipment -

**1910.1025(g)(1)**

Provision and use. If an employee is exposed to lead above the PEL, without regard to the use of respirat provide at no cost to the employee and assure that the employee uses appropriate protective work clothin

**1910.1025(g)(1)(i)**

Coveralls or similar full-body work clothing;

**1910.1025(g)(1)(ii)**

Gloves, hats, and shoes or disposable shoe coverlets; and

**1910.1025(g)(1)(iii)**

Face shields, vented goggles, or other appropriate protective equipment which complies with 1910.133 o

**1910.1025(g)(2)**

Cleaning and replacement.

**1910.1025(g)(2)(i)**

The employer shall provide the protective clothing required in paragraph (g)(1) of this section in a clean ;  
without regard to a respirator are over 200 ug/m(3) of lead as an 8-hour TWA.

**1910.1025(g)(2)(ii)**

The employer shall provide for the cleaning, laundering, or disposal of protective clothing and equipmen

**1910.1025(g)(2)(iii)**

The employer shall repair or replace required protective clothing and equipment as needed to maintain th

**..1910.1025(g)(2)(iv)**

**1910.1025(g)(2)(iv)**

The employer shall assure that all protective clothing is removed at the completion of a work shift only in  
section.

**1910.1025(g)(2)(v)**

The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or dis  
dispersion of lead outside the container.

**1910.1025(g)(2)(vi)**

The employer shall inform in writing any person who cleans or launders protective clothing or equipmen

**1910.1025(g)(2)(vii)**

The employer shall assure that the containers of contaminated protective clothing and equipment require  
CONTAMINATED WITH LEAD. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPO:  
APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

**1910.1025(g)(2)(viii)**

The employer shall prohibit the removal of lead from protective clothing or equipment by blowing, shaki

**1910.1025(h)**

Housekeeping -

**1910.1025(h)(1)**

Surfaces. All surfaces shall be maintained as free as practicable of accumulations of lead.

***..1910.1025(h)(2)***

**1910.1025(h)(2)**

Cleaning floors.

**1910.1025(h)(2)(i)**

Floors and other surfaces where lead accumulates may not be cleaned by the use of compressed air.

**1910.1025(h)(2)(ii)**

Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods are not feasible.

**1910.1025(h)(3)**

Vacuuming. Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner that does not create dust clouds.

**1910.1025(i)**

Hygiene facilities and practices.

**1910.1025(i)(1)**

The employer shall assure that in areas where employees are exposed to lead above the PEL, without regulated products are not present or used, and cosmetics are not applied, except in change rooms, lunchrooms, and restrooms.

**1910.1025(i)(2)**

Change rooms.

**1910.1025(i)(2)(i)**

The employer shall provide clean change rooms for employees who work in areas where their airborne exposure to lead is above the PEL.

***..1910.1025(i)(2)(ii)***

**1910.1025(i)(2)(ii)**

The employer shall assure that change rooms are equipped with separate storage facilities for protective clothing and equipment to prevent cross-contamination.

**1910.1025(i)(3)**

Showers.

**1910.1025(i)(3)(i)**

The employer shall assure that employees who work in areas where their airborne exposure to lead is above the PEL during any work shift.

**1910.1025(i)(3)(ii)**

The employer shall provide shower facilities in accordance with 1910.141 (d)(3) of this part.

**1910.1025(i)(3)(iii)**

The employer shall assure that employees who are required to shower pursuant to paragraph (i)(3)(i) do not shower during any work shift.

**1910.1025(i)(4)**

Lunchrooms.

**1910.1025(i)(4)(i)**

The employer shall provide lunchroom facilities for employees who work in areas where their airborne exposure to lead is above the PEL during any work shift.

**1910.1025(i)(4)(ii)**

The employer shall assure that lunchroom facilities have a temperature controlled, positive pressure, filtered air supply, and other appropriate features.

***..1910.1025(i)(4)(iii)***

**1910.1025(i)(4)(iii)**

The employer shall assure that employees who work in areas where their airborne exposure to lead is above the PEL do not eat, drink, smoke, or apply cosmetics prior to eating, drinking, smoking or applying cosmetics.

**1910.1025(i)(4)(iv)**

The employer shall assure that employees do not enter lunchroom facilities with protective work clothing, dust, or other cleaning method.

**1910.1025(i)(5)**

Lavatories. The employer shall provide an adequate number of lavatory facilities which comply with 1910.1025(j)(1).

**1910.1025(j)**

Medical surveillance -

**1910.1025(j)(1)**

General.

**1910.1025(j)(1)(i)**

The employer shall institute a medical surveillance program for all employees who are or may be exposed to lead.

**1910.1025(j)(1)(ii)**

The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a physician.

**1910.1025(j)(1)(iii)**

The employer shall provide the required medical surveillance including multiple physician review under paragraph (j)(1)(i) of this section.

**..1910.1025(j)(2)**

**1910.1025(j)(2)**

Biological monitoring -

**1910.1025(j)(2)(i)**

Blood lead and ZPP level sampling and analysis. The employer shall make available biological monitoring levels to each employee covered under paragraph (j)(1)(i) of this section on the following schedule:

**1910.1025(j)(2)(i)(A)**

At least every 6 months to each employee covered under paragraph (j)(1)(i) of this section;

**1910.1025(j)(2)(i)(B)**

At least every two months for each employee whose last blood sampling and analysis indicated a blood lead level above 40 ug/100 g of whole blood until two consecutive blood samples and analyses indicate a blood lead level below 40 ug/100 g of whole blood.

**1910.1025(j)(2)(i)(C)**

At least monthly during the removal period of each employee removed from exposure to lead due to an elevated blood lead level.

**1910.1025(j)(2)(ii)**

Follow-up blood sampling tests. Whenever the results of a blood lead level test indicate that an employee is in the removal period under paragraph (k)(1)(i)(A), of this section, the employer shall provide a second (follow-up) blood sampling test.



**1910.1025(j)(3)(ii)**

Content. Medical examinations made available pursuant to paragraph (j)(3)(i)(A)-(B) of this section shall

**1910.1025(j)(3)(ii)(A)**

A detailed work history and a medical history, with particular attention to past lead exposure (occupation gastrointestinal, hematologic, renal, cardiovascular, reproductive and neurological problems;

**1910.1025(j)(3)(ii)(B)**

A thorough physical examination, with particular attention to teeth, gums, hematologic, gastrointestinal, and respiratory protection will be used;

**1910.1025(j)(3)(ii)(C)**

A blood pressure measurement;

**1910.1025(j)(3)(ii)(D)**

A blood sample and analysis which determines:

**1910.1025(j)(3)(ii)(D)(1)**

Blood lead level;

**1910.1025(j)(3)(ii)(D)(2)**

**1910.1025(j)(3)(ii)(D)(2)**

Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral smear morphology;

**1910.1025(j)(3)(ii)(D)(3)**

Zinc protoporphyrin;

**1910.1025(j)(3)(ii)(D)(4)**

Blood urea nitrogen; and,

**1910.1025(j)(3)(ii)(D)(5)**

Serum creatinine;

**1910.1025(j)(3)(ii)(E)**

A routine urinalysis with microscopic examination; and

**1910.1025(j)(3)(ii)(F)**

Any laboratory or other test which the examining physician deems necessary by sound medical practice. (j)(3)(i)(C) - (D) of this section shall be determined by an examining physician and, if requested by an en

**1910.1025(j)(3)(iii)**

Multiple physician review mechanism.

**1910.1025(j)(3)(iii)(A)**

If the employer selects the initial physician who conducts any medical examination or consultation provided by a physician:

**1910.1025(j)(3)(iii)(A)(1)**

To review any findings, determinations or recommendations of the initial physician; and

***..1910.1025(j)(3)(iii)(A)(2)***

**1910.1025(j)(3)(iii)(A)(2)**

To conduct such examinations, consultations, and laboratory tests as the second physician deems necessary.

**1910.1025(j)(3)(iii)(B)**

The employer shall promptly notify an employee of the right to seek a second medical opinion after each examination pursuant to this section. The employer may condition its participation in, and payment for, the multiple physician review process within 15 days after receipt of the foregoing notification, or receipt of the initial physician's written opinion, written

**1910.1025(j)(3)(iii)(B)(1)**

The employee informing the employer that he or she intends to seek a second medical opinion, and

**1910.1025(j)(3)(iii)(B)(2)**

The employee initiating steps to make an appointment with a second physician.

**1910.1025(j)(3)(iii)(C)**

If the findings, determinations or recommendations of the second physician differ from those of the initial physician, the employer and the employee shall make every effort to resolve any disagreement made for the two physicians to resolve any disagreement.

**1910.1025(j)(3)(iii)(D)**

If the two physicians have been unable to quickly resolve their disagreement, then the employer and the employee shall

***..1910.1025(j)(3)(iii)(D)(1)***

**1910.1025(j)(3)(iii)(D)(1)**

To review any findings, determinations or recommendations of the prior physicians; and

**1910.1025(j)(3)(iii)(D)(2)**

To conduct such examinations, consultations, laboratory tests and discussions with the prior physicians and consulting physicians.

**1910.1025(j)(3)(iii)(E)**

The employer shall act consistent with the findings, determinations and recommendations of the third physician, or otherwise consistent with the recommendations of at least one of the three physicians.

**1910.1025(j)(3)(iv)**

Information provided to examining and consulting physicians.

**1910.1025(j)(3)(iv)(A)**

The employer shall provide an initial physician conducting a medical examination or consultation under 1910.1025(j)(3)(iv)(A)(1) through (4).

**1910.1025(j)(3)(iv)(A)(1)**

A copy of this regulation for lead including all Appendices;

**1910.1025(j)(3)(iv)(A)(2)**

A description of the affected employee's duties as they relate to the employee's exposure;

**1910.1025(j)(3)(iv)(A)(3)**

The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if a toxic substance is present);

**1910.1025(j)(3)(iv)(A)(4)**

**1910.1025(j)(3)(iv)(A)(4)**

A description of any personal protective equipment used or to be used;

**1910.1025(j)(3)(iv)(A)(5)**

Prior blood lead determinations; and

**1910.1025(j)(3)(iv)(A)(6)**

All prior written medical opinions concerning the employee in the employer's possession or control.

**1910.1025(j)(3)(iv)(B)**

The employer shall provide the foregoing information to a second or third physician conducting a medical examination, a second or third physician, or by the employee.

**1910.1025(j)(3)(v)**

Written medical opinions.

**1910.1025(j)(3)(v)(A)**

The employer shall obtain and furnish the employee with a copy of a written medical opinion from each physician.

**1910.1025(j)(3)(v)(A)(1)**

The physician's opinion as to whether the employee has any detected medical condition which would place the employee at a higher risk of developing lead poisoning from exposure to lead;

**1910.1025(j)(3)(v)(A)(2)**

Any recommended special protective measures to be provided to the employee, or limitations to be placed on the employee's activities;

**1910.1025(j)(3)(v)(A)(3)**

**1910.1025(j)(3)(v)(A)(3)**

Any recommended limitation upon the employee's use of respirators, including a determination of whether the employee's use of respirators is necessary; and a determination of whether the employer determines that the employee cannot wear a negative pressure respirator; and

**1910.1025(j)(3)(v)(A)(4)**

The results of the blood lead determinations.

**1910.1025(j)(3)(v)(B)**

The employer shall instruct each examining and consulting physician to:

**1910.1025(j)(3)(v)(B)(1)**

Not reveal either in the written opinion, or in any other means of communication with the employer, findings of occupational exposure to lead; and

**1910.1025(j)(3)(v)(B)(2)**

Advise the employee of any medical condition, occupational or nonoccupational, which dictates further restriction of the employee's activities.

**1910.1025(j)(3)(vi)**

Alternate Physician Determination Mechanisms. The employer and an employee or authorized employee determination mechanism in lieu of the multiple physician review mechanism provided by this paragraph contained in this paragraph.

**1910.1025(j)(4)**

Chelation.

**1910.1025(j)(4)(i)**

The employer shall assure that any person whom he retains, employs, supervises or controls does not engage

***..1910.1025(j)(4)(ii)***

**1910.1025(j)(4)(ii)**

If therapeutic or diagnostic chelation is to be performed by any person in paragraph (j)(4)(i), the employee shall be in a clinical setting with thorough and appropriate medical monitoring and that the employee is notified in writing

**1910.1025(k)**

Medical Removal Protection -

**1910.1025(k)(1)**

Temporary medical removal and return of an employee -

**1910.1025(k)(1)(i)**

Temporary removal due to elevated blood lead levels -

**1910.1025(k)(1)(i)(A)**

The employer shall remove an employee from work having an exposure to lead at or above the action level if a blood lead test conducted pursuant to this section indicates that the employee's blood lead level is at or above 60 ug/100 g

**1910.1025(k)(1)(i)(B)**

The employer shall remove an employee from work having an exposure to lead at or above the action level if a blood lead test conducted pursuant to this section (or the average of all blood sampling tests conducted over the previous 90 days) indicates that the employee's blood lead level is at or above 50 ug/100 g of whole blood; provided, however, that an employee need not be removed if the blood lead level is at or above 50 ug/100 g of whole blood.

***..1910.1025(k)(1)(ii)***

**1910.1025(k)(1)(ii)**

Temporary removal due to a final medical determination.

**1910.1025(k)(1)(ii)(A)**

The employer shall remove an employee from work having an exposure to lead at or above the action level finding, determination, or opinion that the employee has a detected medical condition which places the employee at increased risk of material impairment.

**1910.1025(k)(1)(ii)(B)**

For the purposes of this section, the phrase "final medical determination" shall mean the outcome of the medical surveillance mechanism used pursuant to the medical surveillance provisions of this section.

**1910.1025(k)(1)(ii)(C)**

Where a final medical determination results in any recommended special protective measures for an employee, the employer shall implement and act consistent with the recommendation.

**1910.1025(k)(1)(iii)**

Return of the employee to former job status.

**1910.1025(k)(1)(iii)(A)**

The employer shall return an employee to his or her former job status:

**1910.1025(k)(1)(iii)(A)(1)**

For an employee removed due to a blood lead level at or above 60 ug/100 g, or due to an average blood lead level that indicates that the employee's blood lead level is at or below 40 ug/100 g of whole blood;

***..1910.1025(k)(1)(iii)(A)(2)***

**1910.1025(k)(1)(iii)(A)(2)**

For an employee removed due to a final medical determination, when a subsequent final medical determination indicates that the employee no longer has a detected medical condition which places the employee at increased risk of material impairment.

**1910.1025(k)(1)(iii)(B)**

For the purposes of this section, the requirement that an employer return an employee to his or her former job status or would have had, absent temporary medical removal, to a specific job classification or position under the employee's former job status.

**1910.1025(k)(1)(iv)**

Removal of other employee special protective measure or limitations. The employer shall remove any limitations on the employee's work activities.

to an employee pursuant to a final medical determination when a subsequent final medical determination necessary.

**1910.1025(k)(1)(v)**

Employer options pending a final medical determination. Where the multiple physician review mechanism or surveillance provisions of this section, has not yet resulted in a final medical determination with respect to

***..1910.1025(k)(1)(v)(A)***

**1910.1025(k)(1)(v)(A)**

Removal. The employer may remove the employee from exposure to lead, provide special protective measures, or limit the duties of the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the

**1910.1025(k)(1)(v)(B)**

Return. The employer may return the employee to his or her former job status, end any special protective measures, or limit the duties of the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the

**1910.1025(k)(1)(v)(B)(1)**

the initial removal, special protection, or limitation of the employee resulted from a final medical determination by the initial physician or

**1910.1025(k)(1)(v)(B)(2)**

The employee has been on removal status for the preceding eighteen months due to an elevated blood lead level.

**1910.1025(k)(2)**

Medical removal protection benefits -

**1910.1025(k)(2)(i)**

Provision of medical removal protection benefits. The employer shall provide to an employee up to eight weeks of medical removal protection benefits if an employee is removed from exposure to lead or otherwise limited pursuant to this section.

***..1910.1025(k)(2)(ii)***

**1910.1025(k)(2)(ii)**

Definition of medical removal protection benefits. For the purposes of this section, the requirement that an employer shall maintain the earnings, seniority and other employment rights and benefits of an employee as though the employee were not limited.

**1910.1025(k)(2)(iii)**

Follow-up medical surveillance during the period of employee removal or limitation. During the period of removal or limitation, the employer may condition the provision of medical removal protection benefits upon the employee's compliance with this section.

**1910.1025(k)(2)(iv)**

Workers' compensation claims. If a removed employee files a claim for workers' compensation payments during the period of removal protection benefits pending disposition of the claim. To the extent that an award is made to the employee, the removal protection obligation shall be reduced by such amount. The employer shall receive no credit for such expenses.

**1910.1025(k)(2)(v)**

Other credits. The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced by earnings lost during the period of removal either from a publicly or employer-funded compensation program by virtue of the employee's removal.

**..1910.1025(k)(2)(vi)**

**1910.1025(k)(2)(vi)**

Employees whose blood lead levels do not adequately decline within 18 months of removal. The employer shall continue to provide medical removal protection benefits to the employee whose blood lead level has not declined within the period of removal or her former job status:

**1910.1025(k)(2)(vi)(A)**

The employer shall make available to the employee a medical examination pursuant to this section to obtain a final medical determination.

**1910.1025(k)(2)(vi)(B)**

The employer shall assure that the final medical determination obtained indicates whether or not the employee should be taken to protect the employee's health;

**1910.1025(k)(2)(vi)(C)**

Where the final medical determination has not yet been obtained, or once obtained indicates that the employee should continue to provide medical removal protection benefits to the employee until either the employee is returned to work or the employee is incapable of ever safely returning to his or her former job status.

**..1910.1025(k)(2)(vi)(D)**

**1910.1025(k)(2)(vi)(D)**

Where the employer acts pursuant to a final medical determination which permits the return of the employee to work at an unacceptable blood lead level, later questions concerning removing the employee again shall be decided pursuant to such an employee pursuant to the blood lead level removal criteria provided by this section.

**1910.1025(k)(2)(vii)**

Voluntary Removal or Restriction of An Employee. Where an employer, although not required by this section, voluntarily removes or restricts an employee due to the effects of lead exposure on the employee's medical condition, the employer shall follow the same procedures as those required by paragraph (k)(2)(i) of this section.

**1910.1025(l)**

Employee information and training -

**1910.1025(l)(1)**

Training program.

**1910.1025(l)(1)(i)**

Each employer who has a workplace in which there is a potential exposure to airborne lead at any level shall institute a training program for all employees who are exposed to lead.

**1910.1025(l)(1)(ii)**

The employer shall institute a training program for and assure the participation of all employees who are exposed to lead where the possibility of skin or eye irritation exists.

***..1910.1025(l)(1)(iii)***

**1910.1025(l)(1)(iii)**

The employer shall provide initial training by 180 days from the effective date for those employees covered by this paragraph at the time of their initial job assignment for those employees subsequently covered by this paragraph.

**1910.1025(l)(1)(iv)**

The training program shall be repeated at least annually for each employee.

**1910.1025(l)(1)(v)**

The employer shall assure that each employee is informed of the following:

**1910.1025(l)(1)(v)(A)**

The content of this standard and its appendices;

**1910.1025(l)(1)(v)(B)**

The specific nature of the operations which could result in exposure to lead above the action level;

**1910.1025(l)(1)(v)(C)**

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

**1910.1025(l)(1)(v)(D)**

The purpose and a description of the medical surveillance program, and the medical removal protection program with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females);

**1910.1025(l)(1)(v)(E)**

The engineering controls and work practices associated with the employee's job assignment;

**..1910.1025(l)(1)(v)(F)**

**1910.1025(l)(1)(v)(F)**

The contents of any compliance plan in effect; and

**1910.1025(l)(1)(v)(G)**

Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies without the advice of a physician;

**1910.1025(l)(2)**

Access to information and training materials.

**1910.1025(l)(2)(i)**

The employer shall make readily available to all affected employees a copy of this standard and its appendices.

**1910.1025(l)(2)(ii)**

The employer shall provide, upon request, all materials relating to the employee information and training materials.

**1910.1025(l)(2)(iii)**

In addition to the information required by paragraph (l)(1)(v), the employer shall include as part of the training materials required by the Occupational Safety and Health Act, the regulations issued pursuant to that Act, and this lead standard, with the following information:

**..1910.1025(m)**

**1910.1025(m)**

Signs -

**1910.1025(m)(1)**

General.

**1910.1025(m)(1)(i)**

The employer may use signs required by other statutes, regulations or ordinances in addition to, or in con

**1910.1025(m)(1)(ii)**

The employer shall assure that no statement appears on or near any sign required by this paragraph which

**1910.1025(m)(2)**

Signs.

**1910.1025(m)(2)(i)**

The employer shall post the following warning signs in each work area where the PEL is exceeded:

WARNING  
LEAD WORK AREA  
POISON  
NO SMOKING OR EATI

**1910.1025(m)(2)(ii)**

The employer shall assure that signs required by this paragraph are illuminated and cleaned as necessary

**1910.1025(n)**

Recordkeeping -

**1910.1025(n)(1)**

Exposure monitoring.

**1910.1025(n)(1)(i)**

The employer shall establish and maintain an accurate record of all monitoring required in paragraph (d)

**1910.1025(n)(1)(ii)**

This record shall include:

**1910.1025(n)(1)(ii)(A)**

The date(s), number, duration, location and results of each of the samples taken, including a description c

where applicable;

***..1910.1025(n)(1)(ii)(B)***

**1910.1025(n)(1)(ii)(B)**

A description of the sampling and analytical methods used and evidence of their accuracy;

**1910.1025(n)(1)(ii)(C)**

The type of respiratory protective devices worn, if any;

**1910.1025(n)(1)(ii)(D)**

Name, social security number, and job classification of the employee monitored and of all other employees

**1910.1025(n)(1)(ii)(E)**

The environmental variables that could affect the measurement of employee exposure.

**1910.1025(n)(1)(iii)**

The employer shall maintain these monitoring records for at least 40 years or for the duration of employment.

**1910.1025(n)(2)**

Medical surveillance.

**1910.1025(n)(2)(i)**

The employer shall establish and maintain an accurate record for each employee subject to medical surveillance.

**1910.1025(n)(2)(ii)**

This record shall include:

**1910.1025(n)(2)(ii)(A)**

The name, social security number, and description of the duties of the employee;

***..1910.1025(n)(2)(ii)(B)***

**1910.1025(n)(2)(ii)(B)**

A copy of the physician's written opinions;

**1910.1025(n)(2)(ii)(C)**

Results of any airborne exposure monitoring done for that employee and the representative exposure level.

**1910.1025(n)(2)(ii)(D)**

Any employee medical complaints related to exposure to lead.

**1910.1025(n)(2)(iii)**

The employer shall keep, or assure that the examining physician keeps, the following medical records:

**1910.1025(n)(2)(iii)(A)**

A copy of the medical examination results including medical and work history required under paragraph

**1910.1025(n)(2)(iii)(B)**

A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the

**1910.1025(n)(2)(iii)(C)**

A copy of the results of biological monitoring.

**1910.1025(n)(2)(iv)**

The employer shall maintain or assure that the physician maintains those medical records for at least 40 years.

**1910.1025(n)(3)**

**1910.1025(n)(3)**

Medical removals.

**1910.1025(n)(3)(i)**

The employer shall establish and maintain an accurate record for each employee removed from current exposure to lead.

**1910.1025(n)(3)(ii)**

Each record shall include:

**1910.1025(n)(3)(ii)(A)**

The name and social security number of the employee;

**1910.1025(n)(3)(ii)(B)**

The date on each occasion that the employee was removed from current exposure to lead as well as the cumulative exposure to lead.

status;

**1910.1025(n)(3)(ii)(C)**

A brief explanation of how each removal was or is being accomplished; and

**1910.1025(n)(3)(ii)(D)**

A statement with respect to each removal indicating whether or not the reason for the removal was an ele

**1910.1025(n)(3)(iii)**

The employer shall maintain each medical removal record for at least the duration of an employee's empl

**1910.1025(n)(4)**

Availability.

**1910.1025(n)(4)(i)**

The employer shall make available upon request all records required to be maintained by paragraph (n) o copying.

**..1910.1025(n)(4)(ii)**

**1910.1025(n)(4)(ii)**

Environmental monitoring, medical removal, and medical records required by this paragraph shall be pro Secretary in accordance with 29 CFR 1910.1020 (a)-(e) and (2)-(i). Medical removal records shall be pro

**1910.1025(n)(5)**

Transfer of records.

**1910.1025(n)(5)(i)**

Whenever the employer ceases to do business, the successor employer shall receive and retain all records

**1910.1025(n)(5)(ii)**

Whenever the employer ceases to do business and there is no successor employer to receive and retain th records shall be transmitted to the Director.

**1910.1025(n)(5)(iii)**

At the expiration of the retention period for the records required to be maintained by this section, the emp records and shall transmit those records to the Director if requested within the period.

**1910.1025(n)(5)(iv)**

The employer shall also comply with any additional requirements involving transfer of records set forth i

**1910.1025(o)**

Observation of monitoring.

**1910.1025(o)(1)**

Employee observation. The employer shall provide affected employees or their designated representative conducted pursuant to paragraph (d) of this section.

**..1910.1025(o)(2)**

**1910.1025(o)(2)**

Observation procedures.

**1910.1025(o)(2)(i)**

Whenever observation of the monitoring of employee exposure to lead requires entry into an area where shall provide the observer with and assure the use of such respirators, clothing and such equipment, and s procedures.

**1910.1025(o)(2)(ii)**

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

**1910.1025(o)(2)(ii)(A)**

Receive an explanation of the measurement procedures;

**1910.1025(o)(2)(ii)(B)**

Observe all steps related to the monitoring of lead performed at the place of exposure; and

**1910.1025(o)(2)(ii)(C)**

Record the results obtained or receive copies of the results when returned by the laboratory.

**1910.1025(p)**

Effective date. This standard shall become effective March 1, 1979.

**1910.1025(q)**

Appendices. The information contained in the appendices to this section is not intended by itself, to creat

from any existing obligation.

**1910.1025(r)**

Startup dates. All obligations of this standard commence on the effective date except as follows:

**1910.1025(r)(1)**

The initial determination under paragraph (d)(2) shall be made as soon as possible but no later than 30 da

**..1910.1025(r)(2)**

**1910.1025(r)(2)**

Initial monitoring under paragraph (d)(4) shall be completed as soon as possible but no later than 90 days

**1910.1025(r)(3)**

Initial biological monitoring and medical examinations under paragraph (j) shall be completed as soon as monitoring and medical examinations shall be given to employees whom the employer believes to be at g

**1910.1025(r)(4)**

Initial training and education shall be completed as soon as possible but no later than 180 days from the e

**1910.1025(r)(5)**

Hygiene and lunchroom facilities under paragraph (i) shall be in operation as soon as possible but no late

**1910.1025(r)(6)**

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**1910.1025(r)(6)(i)**

Respiratory protection required by paragraph (f) shall be provided as soon as possible but no later than th

**1910.1025(r)(6)(i)(A)**

Employees whose 8-hour TWA exposure exceeds 200 ug/m(3)-on the effective date.

**1910.1025(r)(6)(i)(B)**

Employees whose 8-hour TWA exposure exceeds the PEL but is less than 200 ug/m(3)-150 days from th

**..1910.1025(r)(6)(i)(C)**

**1910.1025(r)(6)(i)(C)**

Powered, air-purifying respirators provided under (f)(2)(ii)-210 days from the effective date.

**1910.1025(r)(6)(i)(D)**

Quantitative fit testing required under (f)(3)(ii)-one year from effective date. Qualitative fit testing is required.

**1910.1025(r)(7)**

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**1910.1025(r)(7)(i)**

Written compliance plans required by paragraph (e)(3) shall be completed and available for inspection at the time of the inspection.

**1910.1025(r)(7)(i)(A)**

Employers for whom compliance with the PEL or interim level is required within 1 year from the effective date shall develop and implement a written compliance plan.

**1910.1025(r)(7)(i)(B)**

Employers in secondary smelting and refining, lead storage battery manufacturing lead pigment manufacturing, and lead-acid battery manufacturing shall develop and implement a written compliance plan.

**1910.1025(r)(7)(i)(C)**

Employers in primary smelting and refining industry-1 year from the effective date for the interim level; 6 months from the effective date for the PEL.

**1910.1025(r)(7)(i)(D)**

Plans for construction of hygiene facilities, if required-6 months from the effective date.

***..1910.1025(r)(8)***

**1910.1025(r)(8)**

The permissible exposure limit in paragraph (c) shall become effective 150 days from the effective date.

[60 FR 52856, Oct. 11, 1995; 61 FR 5507, Feb. 13, 1996; 63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 15, 1998]