



**A quick guide to 1926.62,
Oregon OSHA's construction
industry rule for controlling
exposure to lead.**

What you should know and not a word more!



DCBS

Consumer and
Business Services
Oregon OSHA

A quick guide to 1926.62, Oregon OSHA's construction industry rule for controlling exposure to lead.

What you should know and not a word more!

About this guide

Oregon OSHA's quick guide to 1926.62 is an Oregon OSHA Standards and Technical Resources publication. Oregon OSHA quick guides are for employers and employees who want to know about our requirements and get back to business quickly.

Who should read this guide?

Read this guide if you want to:

- Understand the key requirements of Oregon OSHA's lead rule for the construction industry, 1926.62
- Understand how to comply with 1926.62

Note: This guide doesn't cover the requirements for the Environmental Protection Agency's Renovation, Repair, and Painting rule. This rule requires contractors who do renovation, repair, or painting projects that disturb lead-based paint in homes, child care facilities, and schools built before 1978 to be certified and follow specific work practices to prevent lead contamination. The rule is enforced by the Oregon Construction Contractors' Board (CCB) and the Department of Human Services (DHS), Lead Poisoning Prevention Program.

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Table of Contents

What 1926.62 covers.....	2
Determining your employees' exposure levels	3
Trigger tasks and interim protection.....	5
Air monitoring after your initial determination.....	6
Observing exposure monitoring.....	7
Using engineering and administrative controls.....	7
Developing a written compliance program.....	8
Providing respirators	9
Providing protective clothing and equipment.....	10
Keeping the site clean	11
Ensuring proper hygiene.....	11
Providing medical surveillance.....	12
Providing medical removal protection.....	14
Training employees.....	15
Posting signs.....	15
Keeping records.....	16
Important terms.....	18
1926.62: Key requirements summary	20
Oregon OSHA Services.....	24

What 1926.62 covers

This rule covers construction work where your employees may be exposed to lead.

Examples of activities covered by the rule:

- Disturbing paint on structures built before 1978
- Doing demolition and salvage work
- Removing or encapsulating materials containing lead
- Renovating structures that contain lead
- Installing products that contain lead
- Emergency cleanup of lead-contaminated materials
- Transporting, storing, or disposing of lead-containing materials where construction work is performed
- Doing maintenance work involving these activities

Who could be exposed?

- Carpenters
- Contractors
- Demolition workers
- Drywallers
- Electricians
- Handymen
- Heating/air conditioning installers
- Maintenance workers
- Painters
- Plumbers
- Wallpaperers
- Window replacement installers

Determining your employees' exposure levels

Is lead present where your employees will be working?

If so, you need to determine whether their work will expose them to lead. This is called an **initial determination**.

You can find out if your employees are exposed to lead by sampling the air they breathe with special equipment. This is called **air monitoring** (also, **exposure monitoring**).

You can take an air sample representative of the work shift that you think has the highest exposures to lead.



The amount of lead in the air is measured in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). One microgram equals one millionth of a gram.



You can do air monitoring yourself if you know how to do it and if you have the right equipment, which you can rent. You can also hire a consultant, or your workers' compensation insurance carrier may be able to help.

Know the action level and the permissible exposure limit

- **Action level:** This is the exposure level at which you must act to protect your employees. Thirty micrograms per cubic meter of air ($30 \mu\text{g}/\text{m}^3$) averaged over an eight-hour period is called the action level.
- **Permissible exposure limit:** You must ensure that your employees aren't exposed to lead at levels greater than the permissible exposure limit even if they are wearing a respirator. Fifty micrograms per cubic meter of air ($50 \mu\text{g}/\text{m}^3$) averaged over an eight-hour period is called the permissible exposure limit or **PEL**.

Using other information for your initial determination

- If you have sampled for airborne lead in the past 12 months, you can use that data for your initial determination if the testing conditions and tasks are similar. You can use the data from one or more projects as long as the tasks, conditions, and the percentage of lead involved are similar.
- You can use exposure-level data from industrywide studies or from manufacturers' tests of products similar to those your employees are exposed to, if the data shows workers' exposures are below the action level. Exposure-level data is also called **objective data**.

My employees are remodeling an older home.

How do I know if lead is present?

For buildings built before 1978, you need to presume that the paint contains lead, unless you have information that all of the coatings, including the primer, did not contain lead or have been completely stripped off after 1978. You cannot use lead paint test kits, X-ray fluorescence (XRF), or laboratory testing alone to prove the absence of lead, as none of these methods can show that there is no lead at all. A lead concentration of 0.0015 percent can still lead to airborne exposures at the action level.

Trigger tasks and interim protection

Trigger tasks

The following tasks can expose workers to extreme amounts of lead. If your employees do any of these tasks, you **must** assume they are exposed to lead at levels above the PEL until you have done an initial determination.

- Cutting with a torch
- Heat gun work
- Manual sanding
- Manual scraping of dry materials
- Sanding with a dust collection system
- Spray painting
- Manual demolition of structures such as dry wall, windows, and siding
- Sanding without dust collection systems
- Abrasive blasting
- Lead burning
- Torch burning
- Welding

These tasks are called trigger tasks because they trigger a set of interim measures you must take to protect your employees.

Interim protective measures

If your employees do trigger tasks, you **must** provide them with all of the following until you can show they are exposed below the action level:

- Appropriate respirators
- Protective clothing
- Clean areas for changing and storing clothing
- Handwashing facilities
- Blood sampling for lead
- Training that covers lead health hazards and all parts of 1926.62

Air monitoring after your initial determination

If your employees are exposed to lead above the action level, you must do additional monitoring that is representative of the exposure of each employee.

If: Employees are exposed between the action level and the PEL.	Then: Monitor every six months until two consecutive measurements, taken at least seven days apart, are below the action level.
If: Employees are exposed above the PEL.	Then: Monitor quarterly until exposures are below the action level.



Notify your employees of their monitoring results no later than five days after you receive the information.



If any of your employees' monitoring results are above the PEL, include that information in the notification and tell them how you will lower their exposure.



If your employees are not exposed above the action level, you don't need to do additional monitoring unless a change in a work process or a job could raise the exposure level.

Observing exposure monitoring

Your employees have the right to observe any monitoring you do to assess their exposures to lead.

This includes:

- Receiving an explanation of the measurement procedures
- Observing all steps related to lead monitoring where the exposures are occurring
- Recording the monitoring results or receiving copies of the results

Using engineering and administrative controls

Use *engineering* and *administrative* controls to keep your employees' exposures to lead at or below the PEL. If engineering and administrative controls don't do this, your employees must also use respirators.



Engineering controls change equipment, tools, or processes so employees' exposures to lead are eliminated or reduced. Using a sander attached to a HEPA vacuum to reduce dust is an example.



Administrative controls change employees' work practices and reduce their exposures temporarily. Prohibiting workers from working in areas that expose them to lead above the action level is an example of an administrative control.

Developing a written compliance program

You must have a program in writing that describes how you will keep your employees' exposures at or below the PEL.

Your program must:

- Describe each activity that exposes employees to lead
- Include any engineering plans and studies you used to determine your methods for controlling lead exposures
- Describe the technology you considered to keep exposures below the PEL
- Include air monitoring data that shows the source of lead emissions
- Include a detailed implementation schedule
- Include safe work practices for personal protective equipment, housekeeping, and hygiene facilities
- Include a job rotation schedule if you use administrative controls
- Describe your arrangements with other contractors so that affected employees know they may be exposed to lead
- Include regular workplace inspections by a competent person



A competent person is someone who can identify workplace hazards and who has the authority to take prompt corrective action to eliminate them.



Update your compliance program annually.

Providing respirators

Provide your employees with appropriate respirators when:

- They are doing any trigger task
- Their exposure to lead is greater than the PEL
- Engineering and administrative controls don't reduce their exposures to or below the PEL
- An employee requests a respirator



The table shows examples of appropriate respirators for various exposure levels.

Exposure level	Appropriate respirator
Up to 10 times the PEL	Tight-fitting respirator with N-100, R-100, or P-100 filters,* depending on the type of exposure
Up to 50 times the PEL	Supplied-air respirator with helmet or hood; powered air-purifying respirator with helmet, hood, or loose-fitting face piece with N-100, R-100, or P-100 filters,* depending on the type of exposure
More than 50 times the PEL	Powered air-purifying respirator with tight-fitting, full face-piece; supplied-air respirator with tight-fitting, full face-piece in continuous flow mode or other positive-pressure mode

** N means not resistant to oil; R means resistant to oil; P means oil proof.*



You must also have a respirator program that meets these requirements of 1910.134, v protection:

- 1910.134(b) Definitions
- 1910.134(c) Respiratory protection program
- 1910.134(d) Selection of respirators, except (d)(1)(iii)
- 1910.134(e) Medical evaluation
- 1910.134(f) Fit testing
- 1910.134(g) Use of respirators
- 1910.134(h) Maintenance and care of respirators
- 1910.134(i) Breathing air quality and use
- 1910.134(j) Identification of filters, cartridges, and canisters
- 1910.134(k) Training and information
- 1910.134(l) Program evaluation
- 1910.134(m) Recordkeeping
- 1910.134(o) Appendices

Providing protective clothing and equipment

Provide your employees with protective work clothing and equipment that prevents contamination when:

- They are doing any trigger task before you've done an initial determination
- They are exposed to lead above the PEL
- They are exposed to lead compounds that may cause skin or eye irritation

Protective work clothing includes:

- Coveralls or disposable full-body work clothes
- Gloves, hats, and shoes or disposable shoe coverlets
- Face shields and vented goggles

Things to do:

- Make sure your employees vacuum their shoes and work clothing with a HEPA vacuum before they remove them. Never use compressed air.
- Make sure your employees remove their protective clothing at the end of their shift in change areas provided for that purpose.
- Make sure your employees place contaminated protective clothing in a closed, properly labeled container in the change area.
- Provide clean and dry protective clothing to your employees at least weekly – and daily to any employees whose exposure levels are more than four times the PEL.
- Repair or replace their protective clothing to maintain its effectiveness.
- Label containers of contaminated clothing as follows:
“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.”
- Inform in writing any person who cleans protective clothing about lead's harmful effects.

Keeping the site clean

- Use only vacuums that have HEPA filters for cleaning.
- Consider shoveling, wet sweeping, or brushing only when vacuuming is not effective.
- Don't use compressed air to remove lead from surfaces unless you use a ventilation system that captures the airborne dust at the source.

Ensuring proper hygiene

For employees who are exposed to lead above the PEL:

- Food, beverages, tobacco products, and cosmetics are not allowed in work areas.
- Clean change areas are required.
- Showers are required, when feasible.
- A clean eating area is required.
- Employees must wash their hands and face before eating, drinking, smoking, or applying cosmetics.

For employees who are exposed to lead, regardless of the exposure level:

- Change areas must have separate storage areas for protective work clothing and street clothes.
- Employees cannot leave the workplace wearing the protective clothing they wore during their work shift.
- If you cannot provide showers, make sure employees wash their hands and face at the end of their shifts. Encourage them to go home and shower immediately.
- Employees cannot enter lunchrooms or eating areas with protective work clothing unless lead dust has been removed by vacuuming or another method that keeps the dust from spreading.
- Handwashing facilities must include warm water and soap and meet the requirements of 437-002-0141(5) *Washing Facilities*.

Providing medical surveillance

All your employees who may be exposed to lead at or above the action level must have baseline blood sampling for lead and zinc protoporphyrin.



Blood sampling for lead and zinc protoporphyrin is called **biological monitoring**.

The medical surveillance program

You must have a **medical surveillance program** for employees who may be exposed to lead at or above the action level for more than 30 days in any consecutive 12 months. A medical surveillance program includes biological monitoring and medical exams.

Biological monitoring – what to do

Do blood sampling for lead and zinc protoporphyrin for each employee covered by your medical surveillance program according to this schedule:

Employees covered	Schedule
All employees covered by the medical surveillance program	Do blood sampling at least every two months for the first six months and every six months thereafter
Employees whose last blood sampling and analysis showed a blood lead level at or above 40 micrograms per deciliter (40 µg/dl)	Do blood sampling at least every two months
Employees who are removed from exposure to lead due to elevated blood lead levels	Do blood sampling at least monthly



Notify your employees no later than five working days after you receive their blood sampling results.



Notify employees whose blood lead levels are greater than 40 µg/dl that they are subject to temporary medical removal with medical removal protection benefits when their blood lead level is greater than 50 µg/dl. See “Providing medical removal protection,” Page 14.



If the results of blood sampling indicate that an employee's blood lead level is greater than 50 µg/dl, provide a follow-up blood-sampling test within two weeks.

Medical exams – what to do

Provide medical exams for each employee covered by your medical surveillance program according to this schedule:

Employees covered	Schedule
Employees who have a blood sampling test during the past 12 months with a blood lead level at or above 40 µg/dl	At least annually
Employees who report symptoms of lead intoxication	As soon as possible
Employees who are removed from exposure to lead because of a final medical determination	As medically appropriate



Provide the physician conducting a medical exam with the following information:

- A copy of 1926.62, including the appendices
- A description of the employee's duties related to the exposure
- The employee's exposure level (or anticipated exposure level) to lead and any other toxic substance
- A description of any personal protective equipment the employee uses
- Any previous blood lead determinations
- Any previous written medical opinions about the employee



If you choose a physician to conduct an employee's medical exam, the employee can choose another physician for a second opinion.



Give your employee a copy of the written medical opinion from each examining or consulting physician.

Providing medical removal protection

Remove an employee from work who has an exposure to lead at or above the action level when:

- A periodic and a follow-up blood-sampling test indicate that the employee's blood lead level is at or above 50 µg/dl.
- A **final medical determination** finds that the employee has a medical condition that puts the employee at increased risk from exposure to lead.



A final medical determination is the examining physician's written opinion of the employees' health status.

You must provide an employee up to 18 months of medical removal protection benefits each time the employee is removed from exposure to lead.

A "removed" employee can return to work when:

- Two consecutive blood-sampling tests indicate that the employee's blood lead level is at or below 40 µg/dl.
- A subsequent final medical determination finds that the employee no longer has a detected medical condition.

Training employees

Two things you must do to train your employees:

For all employees

Inform all employees about lead hazards, following the requirements of 1926.59, *Hazard communication*.

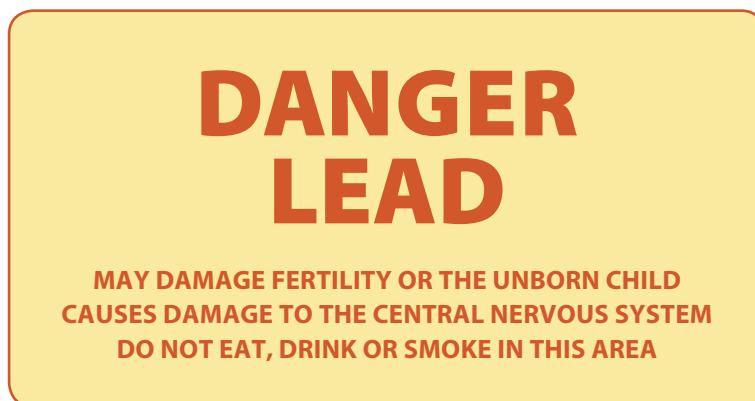
For employees who are exposed to lead at or above the action level

Provide training at least annually that covers the following:

- The content of 1926.62 and its appendices
- The nature of the work that could result in exposure to lead above the action level
- The purpose, selection, fitting, use, and limitations of respirators
- The purpose of the medical surveillance and the medical removal protection programs
- The engineering controls and work practices associated with employees' jobs
- The content of any compliance plan in effect
- Instructions to employees that they should not use chelating agents except under the direction of a licensed physician
- Employees' right to access records under 1910.1020, *Access to Employee Exposure and Medical Records*

Posting signs

Post this sign in work areas where employees are exposed to lead above the PEL.



Keeping records

Exposure monitoring

Keep records of all monitoring data obtained from employee exposure assessments.

Include:

- The date, number, duration, location, and results of each of the samples taken, if any
- A description of the sampling and analytical methods used and evidence of their accuracy
- The type of respirators worn, if any
- The names and job classifications of the employees monitored and of all other employees whose exposure the measurement represents
- The environmental variables that could affect the measurement of employees' exposures



Keep these records for at least 30 years, following the requirements of 1910.1020, *Access to Employee Exposure and Medical Records*

Medical surveillance

Keep a record for each employee subject to medical surveillance.

Include:

- The employees' names and descriptions of their duties
- A copy of the physician's written opinions
- Results of any air monitoring done for employees and provided to the physician
- Any employee's medical complaints about lead exposure

Keep or ensure that the examining physician keeps the following medical records:

- A copy of the medical examination results, including medical and work history
- A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results
- A copy of the results of biological monitoring



Keep these records for the duration of employment plus 30 years, following the requirements of 1910.1020, *Access to Employee Exposure and Medical Records*

Medical removals

Keep records of employees removed from current exposure to lead.

Include:

- The employees' names
- The dates they were removed from exposure to lead and the dates they returned to their former jobs
- A brief explanation of how medical removals are accomplished
- A statement that indicates if the reason for removal was an elevated blood lead level



Keep these records for least the duration of each employee's employment.

Objective data for exemption from initial monitoring



Keep records of objective data used to exempt employees from initial monitoring for at least 30 years.

Requests for records

Make these records available, upon request, to employees, former employees, their designated representatives, and to Oregon OSHA.

Important terms

action level

30 micrograms per cubic meter of air (30 $\mu\text{g}/\text{m}^3$) averaged over an eight-hour period.

administrative controls

changing employees' work practices to reduce their exposures temporarily. Rotating employees among jobs, changing their work schedules, and prohibiting them from doing hazardous tasks are examples.

biological monitoring

blood sampling for lead and zinc protoporphyrin.

engineering controls

changing equipment, tools, or work processes to eliminate or reduce employees' exposures to lead.

air monitoring (*also, exposure monitoring*)

determining if employees are exposed to lead by testing air samples in their work areas.

final medical determination

a written opinion on the employees' health status by the examining physician or physicians.

initial determination

air monitoring to find out if employees may be exposed to lead at or above the action level – 30 $\mu\text{g}/\text{m}^3$ averaged over an eight-hour period.

Important terms (*continued*)

medical removal

requirement to remove an employee from work whose blood lead level is at or above 50 micrograms per deciliter.

medical surveillance program

biological monitoring and medical exams.

objective data

data that shows employees are not exposed to lead dust or fumes in concentrations at or above the action level.

permissible exposure limit

50 micrograms per cubic meter of air ($50 \mu\text{g}/\text{m}^3$) averaged over an eight-hour period. Also called PEL.

respirator program

program that meets the requirements of 1910.134, *Respiratory protection*.

trigger task

high-exposure work tasks that require additional measures to protect employees. Additional measures include respirators, protective clothing, change areas, handwashing facilities, blood sampling, hazard communication, and safety training.

written compliance program

describes how employees' exposures will be kept at or below the PEL.

1926.62: Key requirements summary

Requirement	Where lead is present regardless of exposure	Airborne lead		Blood lead	
		<i>at or above action level</i>	<i>above PEL</i>	<i>above 40 µg/dl</i>	<i>above 50 µg/dl</i>
air monitoring – initial determination	required				
air monitoring – after initial determination		required	required		
air monitoring – allowing employees to observe	required	required	required		
air monitoring – notifying employees		required	required		
air monitoring – trigger tasks			required		
engineering and administrative controls			required		
hazard communication training	required	required	required		
hygiene practices	required	required	required		
keeping the site clean – housekeeping	required	required	required		
lead warning signs			required		

1926.62: Key requirements summary *(continued)*

Requirement	Where lead is present regardless of exposure	Airborne lead		Blood lead	
		at or above action level	above PEL	above 40 µg/dl	above 50 µg/dl
medical surveillance – biological monitoring		required	required	required	required
medical surveillance – exams		required	required	required	
medical surveillance – temporary removal		required	required		required
protective clothing and equipment			required		
recordkeeping – exposure monitoring		required	required		
recordkeeping – medical removals					required
recordkeeping – medical surveillance		required	required		
appropriate respirators			required		
training that covers lead health hazards and all parts of 1926.62		required	required		
written compliance program	required	required	required		

Oregon OSHA Services

Oregon OSHA offers a wide variety of safety and health services to employers and employees:

Enforcement

- ▶ **503-378-3272; 800-922-2689; enforce.web@oregon.gov**
- Offers pre-job conferences for mobile employers in industries such as logging and construction.
- Inspects places of employment for occupational safety and health hazards and investigates workplace complaints and accidents.
- Provides abatement assistance to employers who have received citations and provides compliance and technical assistance by phone.

Consultative Services

- ▶ **503-378-3272; 800-922-2689; consult.web@oregon.gov**
- Offers no-cost, on-site safety and health assistance to help Oregon employers recognize and correct workplace safety and health problems.
- Provides consultations in the areas of safety, industrial hygiene, ergonomics, occupational safety and health programs, assistance to new businesses, the Safety and Health Achievement Recognition Program (SHARP), and the Voluntary Protection Program (VPP).

Standards and Technical Resources

- ▶ **503-378-3272; 800-922-2689; tech.web@oregon.gov**
- Develops, interprets, and gives technical advice on Oregon OSHA's safety and health rules.
- Publishes safe-practices guides, pamphlets, and other materials for employers and employees.
- Manages the Oregon OSHA Resource Center, which offers safety videos, books, periodicals, and research assistance for employers and employees.

Appeals

- ▶ **503-947-7426; 800-922-2689; admin.web@oregon.gov**
- Provides the opportunity for employers to hold informal meetings with Oregon OSHA on concerns about workplace safety and health.
- Discusses Oregon OSHA's requirements and clarifies workplace safety or health violations.
- Discusses abatement dates and negotiates settlement agreements to resolve disputed citations.

Oregon OSHA Services

Conferences

- ▶ **503-378-3272; 888-292-5247, Option 1; oregon.conferences@oregon.gov**
- Co-hosts conferences throughout Oregon that enable employees and employers to learn and share ideas with local and nationally recognized safety and health professionals.

Public Education

- ▶ **503-947-7443; 888-292-5247, Option 2; ed.web@oregon.gov**
- Provides workshops and materials covering management of basic safety and health programs, safety committees, accident investigation, technical topics, and job safety analysis.

Need more information? Call your nearest Oregon OSHA office.

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541-276-9175

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