



CHAPTER 3

LAWS, REGULATIONS, STANDARDS

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Learning objectives

In this chapter you will learn about

- the federal guidelines on lead
- the federal laws and regulations that protect workers and the environment
- your state, tribal, and local laws and regulations for lead.



**The law is one
tool for a safer
and healthier job.**

Laws

There are many laws and regulations on the books. Not everyone observes them. But laws give you many rights. **You can't fight for your rights unless you know what they are.** The law is one tool that can be used to secure a safer and healthier job.

The Occupational Safety and Health Administration (OSHA)—an agency of the Department of Labor—writes and enforces rules protecting workers on the job. OSHA issued an Interim Final Standard for Lead in Construction (29 CFR 1926.62) in May 1993. You will find a fact sheet that summarizes all the need-to-know information about the lead standard in this chapter. Other OSHA regulations may apply to the hazards of lead on construction sites. Your employer is required to provide additional training on the OSHA requirements.

Other OSHA rules you should know about are the Hazard Communication Standard (“Right-to-Know”) and the 11-C (“Nondiscrimination”) clause of the Occupational Safety and Health Act standards.

The Environmental Protection Agency (EPA) has issued rules protecting lead abatement workers, the public, and the environment. EPA’s training and work practices rules (what you can and cannot do when working on a lead abatement job) form the model most states/Indian tribes have used to write their lead program.

Some state and local governments have written laws protecting lead-abatement workers. The laws in your state/Indian tribe will be reviewed at the end of this section.

The Department of Housing and Urban Development (HUD) is responsible for setting requirements for federally owned or assisted housing and operating the Lead Hazard Control Grant Program for privately owned low-income housing. Most pre-1978 properties receiving HUD funds are subject to HUD requirements for lead-based paint. HUD has established guidelines for the evaluation and control of lead-based paint hazards in housing. For some projects, the guidelines are requirements. For other projects, they are recommendations only (not requirements). HUD has issued rules requiring training of rehab, renovation, and maintenance workers who do work on older homes or apartments on how to do their work lead-safely. These rules require clearance examinations of the worksite(s) to prove that the workers cleaned up properly.

HUD and EPA have issued rule to make sure the public is informed about lead-based paint and lead-based paint hazards in housing built before 1978.



Other worker rights under OSHA

As a construction worker, you have other OSHA rights that are contained in the Code of Federal Regulations (CFR). Below is a list of these rights and where to find them.

Right to a workplace free of recognized hazards (OSH Act, Public Law 91-596)

OSHA uses Section 5 in the Occupational Safety and Health Act to stop an employer from endangering a worker's health. It is sometimes called the "General Duty Clause." It can be applied when OSHA does not have a specific standard for a chemical or safety hazard.

Right to file a complaint (OSH Act, Public Law 91-596)

Under Section 11 (C) of the Occupational Safety and Health Act, you have a right to file a complaint with OSHA whenever you feel your health and safety rights are violated. You must file your complaint with OSHA within 30 days of the incident. You may request that OSHA keep your identity secret from your employer.

It is best not to file a complaint alone. Work through your union or co-workers. Contact your local area Committee on Occupational Safety and Health (COSH group) for assistance. A COSH group is a coalition of unions, workers, and professionals working together for safer and healthier working conditions.

Right to safety training (29 CFR 1926.21)

Your employer must train each worker on how to recognize and avoid unsafe conditions. Training must cover methods on how to work safely with hazardous substances—like lead—and in dangerous situations. You must be taught about personal hygiene procedures and about the use and limits of personal protective equipment.

Right to sanitation (29 CFR 1926.51)

Your employer must provide drinking water, toilet facilities, and adequate washing facilities for any work site where there is a contaminant, such as lead.

OSHA has many regulations to protect you.

**Right to respirator program (29 CFR 1910.134*)**

Before your employer hands you a respirator, he or she must have a respirator program. This program includes written procedures for choosing and using respirators and training all employees how to use and maintain respirators. Your employer must monitor the area to make sure all workers have the correct respirators. And your employer must make sure your respirator fits you properly.

The lead standard requires medical exams. You should not be assigned to tasks requiring use of respirators unless it has been determined that you are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent in order for you to wear a respirator. [29 CFR 1910.134(e)]

*You will receive more information on the requirements of the respiratory protection standard in the OSHA training provided by your employer.



OSHA Interim Final Lead in Construction Standard fact sheet

The OSHA Interim Final Lead in Construction Standard (1926.62) went into effect June 3, 1993. It applies to all workers doing construction work who may be exposed to lead on the job.

OSHA has developed a compliance document that will clarify the standard. You can obtain a copy of the compliance document by contacting the OSHA office in your area or by accessing the OSHA web site (www.osha.gov). Contact your state or regional OSHA office for an interpretation of the Construction Standard if necessary. (See the Glossary and Resources Section, Chapter 10, for a listing of OSHA offices.)

The sections of the standard which apply to the different parts of this fact sheet are listed in parentheses ().

Airborne lead exposure

How much lead am I allowed to breathe?

There are two legal limits for the amount of lead you are allowed to breathe. These limits are for the average amount of lead in the air over an 8-hour day:

Action Level—If you work in an area that contains lead at or above 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air, your employer must give you medical surveillance and training in the hazards of working with lead. The limit of $30 \mu\text{g}/\text{m}^3$ is called the Action Level (AL).

Permissible Exposure Limit—Your employer is not allowed to let you breathe in more than 50 micrograms of lead per cubic meter of air. It is called the Permissible Exposure Limit (PEL). If you work in an area with more lead in the air than the PEL, your employer must reduce your exposure.

If you are exposed to lead for more than 8 hours a day, the PEL must be adjusted. Divide 400 by the hours worked per day to get the new exposure limit.

How does my employer know how much lead is in the air?

Your employer **must** do an exposure assessment to determine the amount of lead in the air you are breathing. Exposure assessment can be **air sampling**, past exposure data from the same job or a similar job, or objective data (Section (d)(3) Basis of initial determination). Examples of objective data are product information and insurance information. Objective data are not often used. Conditions for each job, each day, and even each hour, are constantly changing. When conditions change, you cannot rely on objective data.

**OSHA lead in air
levels are:
AL = $30 \mu\text{g}/\text{m}^3$;
PEL = $50 \mu\text{g}/\text{m}^3$.**



Your employer must determine how much lead is in the air for each job type. For example, your employer may do exposure assessment on one scraper, one cleaner, and one person using a heat gun. When your employer does air sampling, your employer must do air sampling on each shift or the shift with the highest exposure. Your employer must also sample the air if any of the employees on the job think they are getting sick because of exposure to lead on the job.

How often does my employer need to sample the air?

Your employer must determine if you are breathing air at or above the Action Level ($30 \mu\text{g}/\text{m}^3$). If your exposure to lead is below the Action Level, your employer does not need to sample again unless the conditions of your job change. If your exposure to lead is at or above the Action Level but below the PEL ($50 \mu\text{g}/\text{m}^3$), then sampling must be done every six months. If the amount is above the PEL, then sampling must be done every three months.

Your employer must also sample every time the conditions of your job change. For example, your employer needs to sample each time you do an abatement job on a different type of building. (Section (d)(6) Frequency and (d)(7) Additional exposure assessments)

How can I find out the results of air sampling?

Your employer is required to give you the results of air sampling within five working days after receiving the results. (Section (d)(8) Employee notification)

Am I protected before air sampling is done?

YES! Certain tasks on construction jobs where lead-based paint is present are known to create large amounts of lead in the air. These tasks are called **lead-related tasks**. The OSHA Standard splits these lead-related task into three different classes. (Section (d)(2) Protection of employees during exposure assessment)

Class 1 tasks

- manual demolition of structures (for example, removing a wall)
- manual scraping (includes chemical stripping) or sanding
- using a heat gun
- power tool cleaning with dust collection systems
- spray painting with lead-based paint

When you do Class 1 tasks, your employer must protect you as if your lead exposure is above the PEL ($50 \mu\text{g}/\text{m}^3$) but not in excess of $500 \mu\text{g}/\text{m}^3$. Your employer must give you this protection until exposure assessment shows the exposure is less than the PEL. Even when the exposure is lower than $50 \mu\text{g}/\text{m}^3$, you can request a respirator. Your employer must give you one.

Certain tasks on construction jobs create large amounts of lead in the air.



Class 2 tasks

- using lead-based mortar
- burning lead
- rivet busting
- power tool cleaning without dust collection systems
- cleanup activities where dry expendable abrasives are used
- moving or tearing down the enclosure used for abrasive blasting

Your employer must protect you when you do Class 2 tasks as if your lead exposure is between 10 times the PEL ($500 \mu\text{g}/\text{m}^3$) and $2,500 \mu\text{g}/\text{m}^3$. He or she must give you higher protection until exposure assessment shows that your exposure is less than $500 \mu\text{g}/\text{m}^3$. If your exposure is lower, you must still be protected. Your employer must provide you with a respirator that protects you from the lead level to which you are being exposed. You can use the chart on page 3-10 and the exposure assessment to find the right respirator for the job.

Class 3 tasks

- abrasive blasting
- welding
- cutting
- torch burning

Your employer must protect you when you do Class 3 tasks as if your lead exposure is above 50 times the PEL ($2,500 \mu\text{g}/\text{m}^3$). Your employer must give you this higher protection until exposure assessment shows that your exposure is below this level. If your exposure is lower, you must still be protected. Your employer must provide you with a respirator that protects you from the lead level to which you are being exposed. You can use the chart on page 3-10 to find the right respirator for the job.

What does my employer have to do?

If you will be exposed at or above the AL or you will do any of the lead-related tasks in Classes 1, 2, or 3, your employer must provide the following for workers: (Section (d)(2)(v)(A)-(F))

- training on the hazards of working with lead
- a place for hand and face washing
- blood tests reviewed by a doctor
- HEPA vacuums

Your employer must provide you with a respirator that protects you from the lead level to which you are being exposed.

**SOME RESPIRATORS LEGAL FOR LEAD WORK**

Task Class	MUC*	Respirator Types
Class 1	500 µg/m ³	<ul style="list-style-type: none">• Half-mask, air-purifying with HEPA** filters
Class 2	1,250 µg/m ³	<ul style="list-style-type: none">• Loose-fitting hood or helmet PAPR with HEPA filters• Hood or helmet with supplied air continuous flow• Type CE continuous flow
Class 2	2,500 µg/m ³	<ul style="list-style-type: none">• Full-face, air-purifying with HEPA filters• Tight-fitting PAPR with HEPA filters• Full-face, supplied air, pressure demand• Half-mask or full-face, supplied air, continuous flow
Class 3	50,000 µg/m ³	<ul style="list-style-type: none">• Half-mask, supplied air, pressure demand
Class 3	100,000 µg/m ³	<ul style="list-style-type: none">• Full-face, supplied air, pressure demand• Type CE pressure demand
Class 3	100,000+ µg/m ³	<ul style="list-style-type: none">• Full-face, SCBA, pressure demand

*MUC stands for “Maximum Use Concentration,” which means the highest amount of lead in the air for which the respirator can be used.

**HEPA: high efficiency particulate filter means a filter that is 99.97 percent efficient against particles of 0.3 micron size or larger.

Remember: Some specific tasks require minimum respiratory protection until your employer determines your actual exposure level (i.e., the amount of lead in the air you are breathing). However, the appropriate level of respiratory protection provided for any lead activity should be based upon the airborne concentration present in the workplace.



If you will be exposed above the PEL or you will do any of the lead-related tasks in Classes 1, 2, or 3, your employer must provide the following for workers, (in addition to those required if you exceed the AL): (Section (d)(2)(v)(A)-(F))

- the correct respirator (see the table on page 3-10)
- personal protective clothing and equipment
- an area to change into and out of your work clothes
- a place for hand and face washing
- a place where you can shower at the end of the day, if feasible
- blood tests reviewed by a doctor
- training on the hazards of working with lead
- a lead-safe area for eating and drinking
- warning signs around the work area

Does my employer have to reduce my exposure to the lead in the air?

YES! Your employer must do everything possible to reduce your exposure, for example:

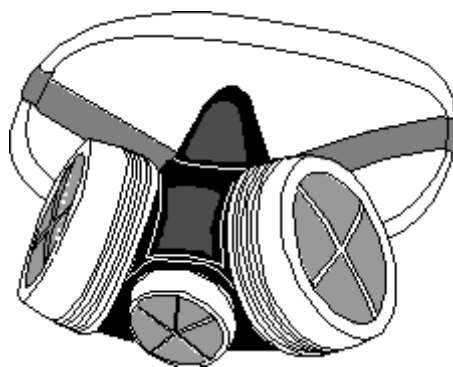
- Use materials or tools which make less lead dust or fumes.
- Change the way you do a job so you create less dust and fumes.
- Rotate schedules so worker exposure to lead is less than a few hours a day.
- Provide you with a respirator.

Your employer must list in writing all the ways he or she is trying to reduce your exposure to lead. This is called a compliance program. (Section (e)(2) Compliance program)

Respirators and protective clothing

When must I wear a respirator?

According to the OSHA Standard, you are only required to wear a respirator if you are doing a Class 1, 2, or 3 task or if air sampling shows you are exposed above the PEL ($50 \mu\text{g}/\text{m}^3$). But if you are exposed to any amount of lead, the regulations say you can request a respirator from your employer, and your employer is required to give you a respirator. This means you can still get a respirator even if you are not exposed to lead above the PEL or doing any of the lead-related tasks.



Respirators and protective clothing will reduce your lead exposure.



The respirator you use will depend on the amount of lead in the air and the job you are doing.

A physician or PLHCP must determine who can and cannot use or wear a respirator safely.

Your employer must provide a respirator for any employee exposed to lead who asks for one. You may want to have this extra protection, especially if you are planning to have children. OSHA recommends that both males and females that are of childbearing age not exceed a blood lead level of 30 µg/dL (Appendix C, Section II).

Whenever you are exposed above the PEL, you can always ask your employer for a Powered Air Purifying Respirator (PAPR). If you are exposed above the PEL, your employer must, by law, provide you with a PAPR—if you ask for it and if it protects you enough. If a PAPR is not protective enough for the job—for example, abrasive blasting—then your employer must provide you with a better respirator that is suitable for this type of work. (Section (f)(1)(iv) Respiratory protection)

What type of respirator can I use?

The respirator you use will depend on the amount of lead in the air and the job you are doing. The standard says you must have a respirator at least as protective as those listed in the table on page 3-10. You can always ask your employer for a Powered Air Purifying Respirator (PAPR). By law, your employer must give you a PAPR if you are exposed above the PEL and you ask for one—and if it provides enough protection. Sometimes a PAPR will not protect you enough—for example, if you were doing abrasive blasting. In that case, your employer must give you a better respirator, such as a full-face, supplied air, pressure demand respirator. Any respirator you use must have a stamp of approval by National Institute of Occupational Safety and Health (NIOSH) or the Mine Safety and Health Administration (MSHA). (Section (f), Table 1 *Respiratory Protection for Lead Aerosols*)

What do I need to do before I wear a respirator?

A physician or other licensed health care professional (PLHCP) (e.g., registered nurse) must determine who can and cannot use or wear a respirator safely. This medical evaluation consists of the written or verbal completion of Appendix C of the lead in construction standard (29 CFR 1926.62) by the PLHCP. Your employer must pay for the medical evaluation and any testing recommended by the PLHCP. You also need fit testing and training on how to use your respirator.

What personal protective equipment do I need other than a respirator?

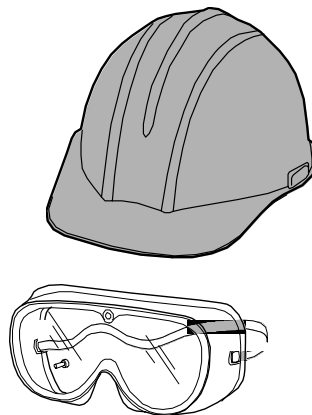
If you are working in an area with lead above the PEL, or if you are doing any of the tasks listed under Class 1, 2, or 3, your employer must give you protective work clothing. (Section (g) Protective work clothing and equipment) This clothing should include

- coveralls
- gloves
- disposable shoe coverings
- face shield or vented goggles
- hat (adequate head protection based on the hazards present in the work area)



Who is responsible for providing and cleaning my protective clothing ?

If you are exposed at or below the PEL ($50 \mu\text{g}/\text{m}^3$), your employer is not required to provide you with protective clothing. If you are exposed above the PEL but below $200 \mu\text{g}/\text{m}^3$ —or you are doing a Class 1 task and no exposure assessment has been completed—your employer must wash and dry protective clothing or give you new clothing **every week**. If you are exposed at or above $200 \mu\text{g}/\text{m}^3$, your employer must provide clean or new protective clothing **every day**. If you are doing a Class 2 or 3 task, and an exposure assessment for the task has not been completed, your employer must assume that you are being exposed at the higher levels associated with these tasks. The employer must provide clean or new protective clothing **every day until the exposure assessment determines** that your exposure is less than $200 \mu\text{g}/\text{m}^3$.



Many employers provide **disposable suits**. These suits are easily torn. You should inspect your protective clothing regularly for tears or rips. If your suit tears or rips and you cannot repair it, you must get a new protective suit. Some employers provide **reusable, non-disposable protective clothing**. This clothing is usually more durable than the disposable suits, but if it does rip or tear, have it repaired immediately to minimize your chances of being contaminated. If you are given non-disposable protective clothing, your employer is responsible for cleaning, drying, and repairing it. (Section (g)(2) Cleaning and replacement)

Where should I put my used protective clothing?

Your employer must have a closed container in the change area for used protective clothing. The container must be labeled 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.

This helps to prevent your family and other people living in the community from being exposed to lead. The standard says your employer cannot let you leave the work area with protective clothing on.



Use only a HEPA vacuum when cleaning up lead dust.

Never eat, drink, smoke, chew, or apply cosmetics in a lead work area!!

Your workplace

How clean must we keep our job site?

The standard says you must keep all surfaces as free of lead as possible. You must clean up floors and other surfaces with a vacuum or other method that minimizes the likelihood of lead getting into the air. This vacuum must have a High Efficiency Particulate Air (HEPA) filter. Only use shoveling, dry-sweeping, wet-sweeping, or brushing if your employer shows that vacuuming, or other equally effective method, does not work to pick up the dust on your job site.

Compressed air shall not be used to remove lead from any surface unless used in conjunction with proper ventilation and air filtration. (Section (h) Housekeeping)

Can we eat or drink on the job?

NO! Your employer must **not** allow you to eat, drink, smoke, chew tobacco, or apply cosmetics in the work area where your exposure to lead is above the PEL. Your employer must have a place where anyone exposed above the PEL can eat and drink safely, away from lead. Your employer must make sure that you wash your hands and face before eating, drinking, smoking, or applying cosmetics. (Section (i) Hygiene facilities and practices)

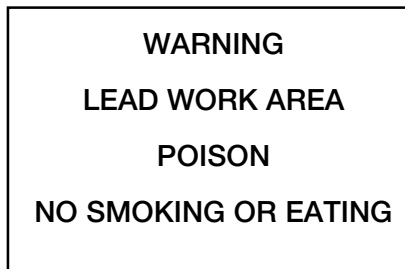
Where can we change our clothes and wash?

Whenever you work with lead, your employer must have a place for you to wash your hands and face. Your employer must make sure that you wash your hands and face at the end of each work shift.

The standard says your employer must have places where anyone exposed above the PEL or doing any of the lead-related tasks (Class 1, 2, or 3) can change in and out of their work clothes. Your employer must have a place where anyone exposed above the PEL can shower, if feasible. OSHA officials have said that if your employer decides having a shower is not feasible, he or she must be able to explain his or her reasoning to any OSHA inspector who comes on the site. (Section (i)(2) Change areas)

**Does my employer have to post warning signs in the work area?**

Your employer must post warning signs in the work area where employees are exposed above the PEL. (Section (m) Signs) The signs must say



Your employer must train you on the hazards of lead and how to protect yourself.

Training**How can workers find out about the hazards of lead?**

The OSHA standard says that employers must provide training to anyone

- working with lead at or above the Action Level ($30 \mu\text{g}/\text{m}^3$);
- doing any of the tasks listed under Class 1, 2, or 3;
- using any lead compounds that cause eye or skin irritation.

(Section (l) Employee information and training)

What does the training about lead have to include?

The annual training must include information on

- OSHA's hazard communication standard (29 CFR 1926.59) including requirements for warning signs and labels, MSDS, and employee information and training;
- OSHA Interim Final Lead in Construction Standard;
- jobs that expose workers to lead above the Action Level;
- respirators: their use and limitations, the different types, and the importance of a proper fit;
- medical surveillance and medical removal protection programs;
- ways your employer can reduce your exposure to lead;
- what your employer is doing to reduce your exposure to lead;
- contents of employer's compliance program (if $> 50 \mu\text{g}/\text{m}^3$);
- instructions not to use chelating agents.



OSHA says that you have a right to see your records:

- medical;
- air sampling.

Recordkeeping

What records does my employer have to keep?

Your employer must keep records of

- all exposure assessments done on your job site;
- the types of respiratory protection worn on your job site;
- names and social security numbers of all employees;
- all medical surveillance done on employees;
- all training done for employees;
- all cases of employees being "medically-removed" from the workplace.



All records must be kept for at least 30 years (except training records—they must be kept for at least one year after you leave that employer). (Section (n) Recordkeeping).

Do I have the right to see any of these records?

YES! You have the right to see any of the air sampling results or any other types of exposure assessments done on your job site. You have the right to have a copy of your medical exam and blood test results. Your employer is required to send a copy of your medical records to anyone you choose. Any requests to send your medical records to someone else should be in writing.

Medical surveillance

Special medical exams called medical surveillance are required when you work with lead. (Section (j) Medical surveillance) There are two types of medical surveillance:

- initial medical surveillance
- medical surveillance program

Initial medical surveillance

Initial medical surveillance consists of blood tests that check the amount of lead in your blood. This test is also called **biological monitoring**. The two blood tests used in the biological monitoring are the blood lead level test and the zinc protoporphyrin (ZPP) test. You need medical surveillance if you do any of the tasks in class 1, 2 or 3 listed in this standard or if you are exposed to lead on the job any one day at or above the Action Level.



On-going medical surveillance program

You need a medical surveillance program if you are or may be exposed to lead on the job at or above the Action Level for **more than 30 days** in any continuous 12-month period. If you are a lead-abatement worker, you can be exposed to lead above the Action Level for 30 or more days in a year. When you expect to do lead-abatement work for at least 30 days, you should take part in a medical surveillance program.

The ongoing medical surveillance program has three types of exams. The doctor must follow the standard and provide

- blood tests for biological monitoring;
- a six-part medical exam;
- a medical exam and consultation.

Blood tests for biological monitoring

The blood lead level and ZPP tests are required when

1. you begin working with lead and every two months for the first six months, and then every six months as long as you are working with lead at or above the Action Level for 30 or more days within a year's time period;
2. your blood lead level results are at or above 40 µg/dL—you must be tested at least every two months until two consecutive blood lead level results are below 40 µg/dL;
3. your blood lead level results are at or above 50 µg/dL—you must be tested again within two weeks. If the second test result is at or above 50 µg/dL, you must be medically removed (defined on page 3-19) and tested at least every month until you reach a blood lead level of 40 µg/dL or less on two separate testing dates. The tests must be taken at least 30 days apart.

Six-part medical exam

Your employer must make available to you the required six-part medical exam in the medical surveillance program whenever you will be working with lead at or above the Action Level for 30 or more days and your blood lead level results are 40 µg/dL or above. (Section (j)(3)(ii) Content) This exam consists of the following:

1. interview about your work and medical history covering:
 - a. past lead exposures
 - b. personal habits like smoking and hygiene
 - c. previous medical problems with the kidneys, heart, nerves, blood, stomach, intestines, and reproductive organs
2. complete physical exam to look at your

Blood tests are the best way of knowing if you've been exposed to lead.



- a. blood
 - b. teeth and gums
 - c. stomach and intestines
 - d. kidneys
 - e. nerves
 - f. brain
 - g. heart
 - h. lungs
3. blood pressure check
 4. blood tests which will show
 - a. blood lead level
 - b. ZPP
 - c. hemoglobin & hematocrit (anemia test)
 - d. blood urea nitrogen
 - e. serum creatinine (kidney test)
 5. routine urinalysis (kidney and protein check)
 6. any additional test that the doctor needs to do to determine how lead has affected or could affect you. Pregnancy testing and male fertility testing must be provided if you request them.

**Medical exam and consultation**

You have the right to a medical exam and consultation whenever you will be working with lead at or above the Action Level for 30 days or more and

- anytime you are working with lead and you feel sick with any of the signs and symptoms of lead poisoning;
- yearly when you have a blood lead level at or above 40 µg/dL;
- whenever you are concerned about having a healthy baby;
- if you have difficulty breathing while wearing a respirator.

You need to notify your employer that you want the medical exam and consultation. The content of this medical exam and consultation is determined by the doctor. (Section (j)(3) Medical exam and consultation)

Who must provide medical surveillance?

Medical surveillance must be provided by your employer.

Your employer must provide medical surveillance for you at no cost to you, the worker—and at a reasonable time and place.



All medical examinations and procedures must be supervised or performed by a licensed physician. Your employer must notify you of the results of the exam within five working days. This is called “**notification.**” You may have another doctor review the findings and provide a second exam. The employer must pay for the second review. This is called “**multiple physician review.**”

What does multiple physician review mean?

If you are not comfortable with the available doctor or do not agree with the doctor’s findings, you can request a second medical exam with a doctor of your choice. This request must be made within 15 days after you receive your copy of the initial medical exam results. Your employer must pay for the second exam.

If the doctors do not agree, they are asked to talk with each other. If there is still no agreement, then a third doctor selected by the two previous doctors will review the findings and conduct any necessary exams. The third doctor gives a written recommendation to the employer. The third opinion is followed unless you and your employer jointly agree to follow the recommendation of either of the previous doctors. (Section (j)(3)(iii) Multiple physician review mechanism)

Medical removal

What is medical removal?

Medical removal means that you are removed from the lead exposure on your job. The standard states you must be removed if your blood lead levels get too high. Medical removal can prevent you from getting severe lead poisoning. Removing you from the lead exposure gives your body time to get rid of the lead. Sometimes this is enough to bring the blood lead level down. Medical removal is a way to protect you from becoming lead poisoned. There are two times that you may be medically removed:

- **elevated blood lead level**

If your blood lead level reaches 50 µg/dL, for the periodic blood test and the follow-up blood test, you must be removed from exposure to lead at or above the Action Level. It is dangerous for you to work with lead when your blood lead level is so high. **You cannot wear a respirator to lower your exposure when your blood lead level is so high.** If you get more lead into your body, you could become lead poisoned. Your employer must provide you with a job with no lead exposure at or above the Action Level. If your employer cannot, he/she must pay you your normal wages until your blood lead level is at 40 µg/dL on two separate tests. You then return to your former job. If your blood lead level remains above 40 µg/dL, your wages must be paid as long as the job exists or up to 18 months. **This is called medical removal protection.**

If the lead level in your blood gets too high, you should not work in a lead work area until your doctor says it’s okay.



- **final medical determination**

Final medical determination means the doctor has given a written medical opinion to remove you from lead exposure. The doctor believes that you have a medical problem that will be affected by lead exposure. The doctor believes that the risk to your health is high. **The doctor must inform the employer of the medical recommendation regarding working with lead.**

The doctor does not tell the employer what the medical problem is, but states that you are at high risk of ill health with lead exposure.

You may return to work with lead when the doctor determines that you no longer have a medical problem that puts you at high risk of ill health with lead exposure. The doctor must put the medical opinion in writing. You then return to your former job. While you are unable to work with lead, your employer must provide you with another job where your lead exposure is not at or above the Action Level. If another job is not available, your employer must pay your wages for as long as the job exists or up to 18 months.

A doctor may use a final medical determination if you say you want to have children and your blood lead level is 30 µg/dL or higher. You will then be placed on medical removal protection. OSHA recommends that a Maximum Permissible blood lead level of 30 µg/dL should not be exceeded in males and females who wish to have children. (Section (k)(1) Temporary medical removal and return of an employee)

What is medical removal protection?

Medical removal protection means that your job will be protected if you must be medically removed from your lead abatement job. Under the OSHA Lead Standard, your employer must pay your salary and benefits and maintain your seniority while you are medically removed. This medical removal protection will last as long as the job exists or up to 18 months. (Section (k)(2) Medical removal protection benefits)

Medical treatment

What is the treatment for lead poisoning?

Chelation therapy is the medical treatment for severe lead poisoning. Chelation therapy is when a drug that is attracted to metals (such as lead) is given to someone with high levels of lead in their blood. Most chelating drugs are now given orally (they used to be given by injection). The drug then gets into the blood stream. It binds to the metal in the blood; the metal and the drug are then passed out of the body through the kidneys in the urine. It is a risky treatment.

Whenever possible, get a second medical opinion to determine whether you need chelation treatment.



Chelation can get rid of some of the lead in your body, but it can be harmful to your health. Chelation is a serious medical treatment. The drug not only removes the lead from your blood, but also other metals that the body needs, such as iron and zinc. When possible, you want to know that at least two doctors think it is necessary for you to have it. The second doctor should be a doctor that you know and trust. This second opinion is paid for by your employer, when you request it. This is when the multiple physician review is most helpful.

Prophylactic chelation means giving chelating drugs to someone to try and prevent lead poisoning. Chelating drugs will only help remove lead from your body after you have been poisoned. Chelating drugs will not protect anyone from lead poisoning. It is illegal for your employer or anyone employed by your employer to give you chelating drugs.

Chelating drugs are dangerous to your health. They can hide lead poisoning that may be happening to you. The chelating drugs may also make your body take in lead more easily. (Section (j)(4) Chelation)

Taking chelating drugs as a preventative treatment is prohibited and illegal.



Title X was designed to reduce lead-based paint hazards and lead poisoning.

Title X fact sheet

The Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X [“ten”]) was established by Congress to reduce the risk of lead poisoning in Federal Housing stock. Some of the general purposes of this law were to

- prevent lead poisoning;
- insure that Federal policies incorporate lead hazard reduction measures;
- educate the public;
- develop an infrastructure capable of dealing with lead in housing (e.g., trained and certified professionals such as lead abatement contractors and workers).

Most of the lead regulations from federal agencies such as the Environmental Protection Agency (EPA), the Department of Housing and Urban Development (HUD), and the Occupational Safety and Health Administration (OSHA) were developed based on direction found in Title X. This law is the cornerstone of the national lead program.

Title X required different government agencies (such as HUD and EPA) to help reduce the amount of lead poisoning in this country. This fact sheet lists some of the important parts of Title X.

Why was Title X passed?

The United State Congress received information that

- an estimated three million American children under the age of six had at least low-level lead poisoning (that number has been reduced to less than one million in part due to the laws and practices instituted since the passage of Title X);
- lead poisoning in children may cause reading and learning disabilities, hyperactivity, and behavior problems;
- ingesting lead dust from deteriorating lead-based paint is the most common cause of lead poisoning;
- homes built before 1980 contained more than 3 million tons of lead in the form of lead-based paint;
- as many as 3,800,000 American homes had chipping or peeling lead-based paint;
- the dangers of lead-based paint hazards can be reduced by permanently abating those hazards or by using interim controls to prevent paint deterioration;



Since Title X was passed, the government has taken many steps to reduce lead-based paint hazards (the regulations and an explanation of what each requires are listed in this chapter).

Title X was designed to eliminate lead-based paint hazards **before** they poison children. In the past, many agencies only got rid of lead-based paint **after** a child had been poisoned.

What was the law designed to do?

The law was designed to

- develop a system of trained people (including lead inspectors, risk assessors, supervisors, contractors, project designers, and abatement workers) to evaluate and reduce lead hazards;
- reduce childhood lead poisoning;
- use government funds in the most cost-effective way to eliminate lead-based paint *hazards*;
- educate the public concerning the hazards and sources of lead poisoning.

The federal government is a “model landlord.”

The federal Lead Safe Housing Rule (which became effective September 15, 2000) requires that actions be taken to address lead hazards in all housing receiving HUD assistance. The actions required depend upon the nature and amount of the assistance provided by HUD. For example, housing receiving funds for rehabilitation are subject to different requirements than housing receiving project-based rental assistance (i.e., the financial assistance is tied to a specific residential property with a specific location).

Anyone purchasing or renting a housing unit built before 1978 must be given a lead hazard information pamphlet: *Protect Your Family from Lead in Your Home*. They must also be notified by the owner of any known information on lead-based paint or lead-based paint hazards inside or outside of the house or apartment.

Who has to be trained?

Title X required EPA to issue specific requirements for how contractors, workers, supervisors, inspectors, risk assessors, and project designers will be trained in lead-based paint activities. These requirements also say how abatement contractors, workers, supervisors, and paint inspectors and risk assessors will be certified. EPA has developed model course curricula for each of the disciplines listed. Most training providers use EPA’s curricula. As part of the EPA program, lead training programs must also be accredited. Only EPA- or state/Indian Tribe-approved training will qualify for certification.

HUD's Lead Safe Housing Rule requires that lead hazards be addressed in all housing receiving HUD assistance.



Many renovation and maintenance workers must be trained in lead-safe work practices.

There are established work practices that you must followed on a lead abatement job.

Certification and licensing requirements for lead workers apply in all states and tribes.

HUD's Lead Safe Housing Rule requires renovation, rehab, and maintenance workers who will disturb lead-based paint during jobs done in housing receiving HUD assistance to be trained in lead-safe work practices. HUD and EPA have developed several courses to train these workers in lead-safe work practices.

How should abatement work be done?

EPA established work practice standards which must be followed when doing abatement (and lead-based paint inspections, or risk assessments):

- Companies and individuals doing the work must be certified or licensed by the state, Indian tribe, or EPA.
- abatement must be performed according to the following procedures:
 - a certified supervisor is required for each abatement project and must be on-site during all work site preparation and during the post-abatement cleanup of work areas and available by telephone, pager or answering service and to be present at the work site within two hours (some states require the supervisor to be on-site *at all times* during the project).
 - the supervisor and firm must be sure that all abatement activities are conducted according to the requirements of all Federal, State/Tribal, or local requirements.
 - EPA and the state/tribes require notification of the beginning of lead-based paint abatement activities in a residential dwelling or child-occupied facility.
 - a written occupant protection plan must be prepared for all abatement projects
 - specific work practices are prohibited;
 - soil must be either removed and replaced or permanently covered;
 - there are specific post-abatement procedures required (including a visual inspection and clearance dust sampling) that must be done by a certified lead-based paint inspector or risk assessor.

Does each state or tribe have its own certification program?

Many states have their own certification or licensing program which is approved by EPA. EPA runs the certification program in states and Indian tribes that do not have their own programs. Because all state programs must be based on EPA's model plan, each state's program should be the same or very similar. However, some states' rules are different. The course instructor will address the differences that may exist between your state's or tribe's rules and EPA's rules. Make sure this course and any others you take are approved by the state(s)/Indian tribe(s) in which you work.

**Are workers doing lead-abatement jobs protected?**

The OSHA Interim Final Lead in Construction Standard became law on June 3, 1993. This standard includes specific requirements for protecting workers doing lead-abatement jobs.

When does lead-based paint become a hazard¹?

EPA has issued standards on

- the conditions of lead-based paint that are a hazard;
- the level of lead in dust allowed on the floors or windows before it is considered a hazard;
- the level of lead allowed in bare residential soil before it is considered a hazard.

Paint-lead hazards

EPA has defined under what conditions lead-based paint in a dwelling becomes hazardous:

- lead-based paint on friction surfaces that are subjected to abrasion (rubbing of painted surface against painted surface as with double-hung window sashes) and where dust-lead hazards (see below) are present;
- lead-based paint on impact surfaces (e.g., floors, door stops, chair rails) that is damaged or deteriorated;
- any chewable lead-based painted surface on which there is evidence of teeth marks;
- any other deteriorated lead-based paint.

Dust-lead hazards

EPA has defined what dust levels would indicate a dust-lead hazard. These levels are:

Location	Amount of Lead
Bare or carpeted floors	40 µg/ft ²
Interior window sills (stools)	250 µg/ft ²

Damaged or deteriorated lead-based paint is a hazard.

EPA has defined dangerous levels of lead in dust and bare soil.

¹ Lead-based paint hazards are usually identified during a lead risk assessment. More information on lead risk assessments and other lead hazard evaluations is found in Chapter 4.)



In addition, EPA has established clearance lead-dust levels. The clearance levels must be met after abatement or federally-assisted rehab or renovation activities have been performed:

Location	Amount of Lead
Bare or carpeted floors	40 µg/ft ²
Interior window sills (stools)	250 µg/ft ²
Window troughs	400 µg/ft ²

Soil-lead hazards

Finally, EPA issued standards on the levels of lead in **residential** bare soils that constitute a soil-lead hazard.

The two different levels established are

Location	Amount of Lead
play areas	400 µg/g (ppm)
other areas of the yard	average of 1,200 µg/g (ppm)

Your supervisor or employer is required to make sure the project is in compliance with the applicable standards.

How is the government educating the public?

Title X required EPA and HUD to issue regulations which require property owners to give each person buying or renting a property built before 1978:

- an EPA lead hazard information pamphlet: *Protect Your Family From Lead in Your Home*;
- any information about lead-based paint hazards in the property;
- for homes built before 1978, a statement in the sales/lease contract warning about the hazards of lead-based paint.

In addition, before a home built before 1978 is sold, the buyer must be given at least ten days to conduct an inspection or risk assessment for lead-based paint hazards. This requirement became effective for everyone in December 1996.

Before starting renovation that will disturb more than two square feet of paint in housing built before 1978, home remodeling or renovation contractors are required by EPA to give a lead hazard information pamphlet to the owner and occupant.

Who is making sure the laws really help solve the problem?

Title X required the HUD Secretary and the EPA Administrator to set up a task force of federal agencies and other organizations with knowledge about lead-based paint activities. This task force has made recommendations to EPA and HUD on developing standards and dealing with the concerns of property owners.

EPA and HUD are educating the public about lead-based paint hazards.



Have these laws been effective?

Yes! Since the passage of Title X and the implementation of these laws, there have been many successes in reducing lead poisoning in children and lead-based paint hazards in housing. These include:

- a significant reduction in the number of residences with lead-based paint and lead-based paint hazards;
- fewer children have too much lead in their blood;
- thirty-seven states now have lead certification or licensing laws (approved by EPA);
- there are thousands of trained and certified lead inspectors, risk assessors, contractors, and workers;
- HUD lead hazard control grants are now active in over 200 cities;
- thousands of maintenance, renovation, and remodeling workers have been trained in lead-safe work practices;
- HUD published the *Guidelines for the Evaluation and Control of Lead-based Paint Hazards in Housing* and modernized lead hazard control requirements in all federally-assisted housing;
- there is overall increased public awareness of lead hazards in housing and how to prevent them.

Since Title X was passed by Congress, there have been many successes in reducing lead-based paint hazards in housing and lead poisoning of children and workers.



Your state or tribe may have lead regulations that are different from the federal.

Your state or tribal laws

Your instructor should provide you with lead-based paint information that applies to the state or tribe in which you work or live. Some cities and counties have lead laws that may apply to the job you are doing. This information may be inserted here. Or, you may take some notes on this page.



Key facts for Chapter 3

Key The law is one tool that can be used to secure a safer and healthier job.

The Occupational Safety and Health Administration (OSHA), an agency of the Department of Labor, writes and enforces rules protecting workers on the job.

The Environmental Protection Agency has issued rules protecting lead abatement workers, the public, and the environment.

The Department of Housing and Urban Development (HUD) has established guidelines for lead-based paint abatement projects in housing. They have also issued rules to protect workers and occupants during and after rehab, renovation, and maintenance in federally-assisted housing.

Key OSHA has set legal limits for airborne lead exposure.

There are two legal limits for the amount of lead you are allowed to breathe: the Action Level, at or above $30 \mu\text{g}/\text{m}^3$; the Permissible Exposure Limit, more than $50 \mu\text{g}/\text{m}^3$ per cubic meter of air.

Your employer must do an exposure assessment to determine the amount of lead in the air you are breathing.

Your employer must determine how much lead is in the air for each job type.

Certain tasks on construction jobs where lead-based paint is present are known to cause large amounts of lead in the air. These tasks are called “lead-related tasks.”

Key If you will be exposed above the PEL or you will do any of the lead-related tasks in Classes 1, 2, or 3, your employer must provide the following for workers:

- the correct respirator;
- personal protective clothing and equipment;
- an area to change into and out of your work clothes;
- a place for hand and face washing;
- a place where you can shower at the end of the day, if feasible;
- blood tests reviewed by a doctor;
- training on the hazards of working with lead;
- a lead-safe area for eating and drinking;
- warning signs around the work area.



When must I wear a respirator?

According to the OSHA Standard, you are only required to wear a respirator if you are doing a Class 1, 2, or 3 task or if air sampling shows you are exposed above the PEL ($50 \mu\text{g}/\text{m}^3$).

You can request a respirator from your employer, and your employer is required to give you a respirator.

If you are exposed above the PEL, your employer must provide you with a Powered Air Purifying Respirator (PAPR)—if you ask for it and if it provides enough protection for the lead levels to which you are exposed.

The respirator you use will depend on the amount of lead in the air and the job you are doing.

What personal protective equipment do I need other than a respirator?

- coveralls
- gloves
- disposable shoe coverings
- face shield or vented goggles
- hat (adequate head protection based on the hazards present in the work area)

You must clean up floors and other surfaces equipped with a vacuum with a High Efficiency Particulate Air (HEPA) filter.

You must not eat, drink, smoke, chew tobacco, or apply cosmetics in the work area.

Whenever you work with lead, your employer must have a place for you to wash your hands and face.

Your employer must train you on the hazards of lead and how to protect yourself. Employers must provide training to anyone

- working with lead at or above the Action Level ($30 \mu\text{g}/\text{m}^3$);
- doing any of the tasks listed under Class 1, 2, or 3;
- using any lead compounds that cause eye or skin irritation.

Your employer must keep records of

- all exposure assessments done on your job site;
- the types of respiratory protection worn on your job site;
- names and social security numbers of all employees;
- all medical surveillance done on employees;



- all training done for employees;
- all cases of medical removal of employees.

You have a right to see your records.

Special medical exams are required when you work with lead. These exams are called **medical surveillance**. There are two types: **initial medical surveillance** and **medical surveillance program**.

Initial medical surveillance is blood tests that check the amount of lead in your blood.

You need a medical surveillance program if you are or may be exposed to lead on the job at or above the Action Level for more than 30 days in any continuous 12-month period.

Your employer must provide medical surveillance for you at no cost to you, the worker—and at a reasonable time and place.

Medical removal is a way to protect you from becoming lead poisoned.

There are two times that you may be medically removed: if your blood lead level reaches 50 µg/dL or if the doctor has given a written medical opinion to remove you from lead exposure.

Medical removal protection means that your job will be protected if you must be medically removed from your lead abatement job.

Chelation is the medical treatment for severe lead poisoning. Chelating drugs are dangerous to your health.

"Residential Lead-Based Paint Hazard Reduction Act of 1992" is also known as Title X (Title "Ten").

Title X was designed to reduce lead-based paint *hazards* and *lead poisoning*.

Training is required for nationwide for lead workers. Check to see whether EPA or the state/tribe in which you work is running the program.

There are work practice standards which must be followed when doing abatement.

The public is being educated about the dangers of lead-based paint hazards.

EPA has set levels of dangerous levels of lead in dust and bare soil and defined lead-based paint *hazards*.

You must clean up carefully after each job and pass clearance dust-wipe testing.

Your state/Indian tribe may have lead regulations that are more stringent than EPA's.



For more information

These publications have more information on the topics covered in this chapter. Your instructor has a copy of the publications marked with a star (*). You can order your own copies by calling 1-800-424-LEAD.

*EPA, *Lead: Identification of Dangerous Levels of Lead; Final Rule*; 40 CFR Part 745 (January 2001).

EPA, *Regulatory Status of Waste Generated by Contractors and Residents from Lead-based Paint Activities Conducted in Households*, Interpretive Memorandum (July 2000).

EPA, *Lead: Requirements for Hazard Education Before Renovation of Target Housing; Final Rule*; 40 CFR Part 745 (June 1998).

*EPA, *Lead: Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities*; 40 CFR Part 745 (August 1996).

EPA and HUD, *Lead: Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing; Final Rule*; 40 CFR Part 745 and 24 CFR Part 35 (March 1996).

*HUD, *Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance; Final Rule* (September 1999).

*HUD, *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* (June 1995).

*OSHA, *Interim Final Lead in Construction Standard*, 29 CFR 1926.62 (May 1993).

National Lead Information Center: 1-800-424-LEAD.