

# LEAD RENOVATION SAFETY



The Certified Renovator for our Lead Renovation Program is:

## WRITTEN LEAD RENOVATION SAFETY PLAN REQUIRED

WAC 296-155-17607

EPA has a Renovation, Repair, and Painting Rule under 40 CFR 745 for Contractors. It references OSHA standard 29 CFR 1926.62, but the EPA has no authority to enforce worker safety requirements. In Washington State, Labor and Industries Division of Safety and Health has a Lead in Construction Standard WAC 296-155-176 for workers once employers know they are exposed to lead. The Standard is long and complicated.

In an attempt to simplify the standard and emphasize WORKER SAFETY, not just compliance, we have combined the highlights of both standards into a written Lead Renovation Safety Plan. Labor and Industries has expressed some concern this may not cover all aspects of the standard, which it does not. However, it does cover the basic SAFETY aspects of the standard and should help employers understand what they need to provide in terms of a **WRITTEN PLAN, EXPOSURE ASSESSMENT, TRAINING, PPE, HYGIENE, MEDICAL SURVEILLANCE, and RECORD KEEPING.**

Homes built before 1978 may have lead based paint and are therefore subject to the EPA's Renovation, Repair and Paint (RRP) Rule. The rule is primarily to protect children under 6, pregnant women, and renovation workers who have a high incidental exposure to lead during their work.

Our company falls under this rule when working on buildings built before 1978; therefore we have instituted this Lead Protection Program for our workers. We do not perform Lead Abatement under the OSHA or WISHA standards; this plan is for occupational exposure under construction activities, specifically those related to the EPA rule. This program does not apply when we have tested a project for Lead and it was determined that it did not contain Lead Based Paint (LBP).

## JOB HAZARD ANALYSIS: LEAD

**Lead Paint Chips, Lead Dust, Lead Fumes:** Our most likely exposure to lead on the jobsite is during demolition of painted surfaces, replacing windows and doors, removing and replacing painted baseboards or baseboard materials on painted walls, or prepping surfaces for repaints by pressure washing, sanding, grinding, or using a chemical paint remover. Other ways you could be exposed on the: \_\_\_\_\_

Our job hazard analysis concludes we must also have a written Hazard Communication program and Respiratory Protection program to protect our employees.

## PROHIBITED ACTIVITIES:

**UNDER THE EPA's RENOVATION, REPAIR and PAINTING RULE:** The following activities are prohibited, using a heat gun over 1100 degrees, power sanding or grinding without a NIOSH approved HEPA vacuum attachment, and open flame or torch burning on any surface with LBP. Avoiding these activities should keep us under the 10 times the PEL.

## WAYS LEAD CAN ENTER THE BODY:

### Inhalation or Ingestion:

When lead is absorbed into the body in certain doses it is a toxic substance. Lead is not absorbed through the skin, but can enter the body by inhalation and ingestion (unless it is in gasoline, then it can be absorbed). When lead is scattered through the air as a dust, fume, or mist it can be inhaled and absorbed by the lungs and upper respiratory tract. Handling food, cigarettes, chewing tobacco, or make-up with hands contaminated with lead will contribute to ingestion. It is for these reason that eating, drinking, and smoking in identified lead areas are avoided.

A significant portion of the lead that you inhale or ingest gets into the blood stream. Once in your blood stream, lead is circulated throughout your body and stored in various organs and body tissue. Some of the lead is filtered out of the body by excretion, but some remains in the blood and other tissues. The amount of lead stored in the body will increase if lead absorption is more than body excretion. The lead stored in the body can slowly cause irreversible damage to cells, organs, and the body system.

## HEALTH EFFECTS OF LEAD OVEREXPOSURE:

**If steps are not taken to control exposure, continued absorption of lead could result in:**

- Constipation or diarrhea.
- Lack of appetite, weight loss, nausea, abdominal pain.



- Adverse effects in the male and female reproductive systems.
- Adverse effects in an unborn fetus.
- Exposure to lead in large enough quantities can kill in a matter of days. A condition affecting the brain may arise, known as acute encephalopathy that develops into seizures, coma, and death. A short-term exposure of this magnitude is highly unlikely, but not impossible.

There is no sharp dividing line between developing acute and chronic health effects. Lead adversely affects numerous body systems and causes forms of health impairment and disease that arise after periods of exposure as short as days or as long as several years.

### LONG TERM OVEREXPOSURE:

Chronic overexposure to lead may result in severe damage to:

- blood forming abilities.
- nervous, urinary and reproductive systems.

Some common symptoms of chronic overexposure include:

- loss of appetite, metallic taste in the mouth.
- anxiety, constipation, nausea, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, and hyperactivity.

At this stage, a qualified physician may diagnose lead poisoning. The medical and scientific community has recognized that lead exposure can have significant adverse health effects on an unborn fetus and the reproductive systems of males and females.

Some symptoms of lead overexposure affecting the male reproductive system may include:

- a decrease in sexual drive, impotence decreased ability to produce healthy sperm and sterility.

With respect to females, these effects may include:

- menstrual disturbances.
- decreased viability of the fertilized ovum.
- changes in reproductive capacity.

### REPORTING OF PROBLEMS:

Immediately notify your supervisor if you develop potential signs or symptoms associated with lead poisoning. You should also notify your supervisor if you have difficulty breathing while wearing a respirator or suspect problems with other personal protective equipment.

### EXPOSURE ASSESSMENT:

#### WAC 296-155-17609

Permissible exposure limit (PEL)-WAC 296-155-17607. The standard sets a permissible exposure limit (PEL) of 50 micrograms of lead per cubic meter of air (50 µg/m<sup>3</sup>), averaged over an 8-hour workday which is referred to as a time-weighted average (TWA).

Air monitoring is technically required under the standard. However,

since many of the renovation activities that may involve lead may take less than it would take to monitor and then not be repeated on a project, some contractors may opt to assume the presence of Lead above the PEL during the following construction activities: demolition of painted surfaces, replacing windows and doors, removing and replacing painted baseboards or baseboard materials on painted walls, or prepping surfaces for repaints by pressure washing, sanding, grinding, or using a chemical paint remover. Using EPA's studies of the exposure to workers, we will assume these activities have an exposure level above the PEL but not above 10 times the PEL, if prohibited practices are not used, until such exposure can be determined.

#### Note: WAC 296-155-17609(2)(a)

2. Protection of employees during assessment of exposure.
  - (a) With respect to the lead related tasks listed in this subdivision, where lead is present, until the employer performs an employee exposure assessment as required in this section and documents that the employee performing any of the listed tasks is not exposed above the PEL, the employer shall treat the employee as if the employee were exposed above the PEL, and not in excess of ten (10) times the PEL, and shall implement employee protective measures prescribed in subdivision (296-155-17609)(2)(e) of this subsection. The tasks covered by this requirement are:
    - i. Where lead containing coatings or paint are present: Manual demolition of structures (e.g., dry wall), manual scraping, manual sanding, heat gun applications, and power tool cleaning with dust collection systems;
    - ii. Spray painting with lead paint.

If uncommon construction conditions exist, or the daily exposure to activities that could put the worker over the PEL, the competent person WILL use air monitoring to determine the exposure to the PEL.

To rule out the exposure of lead at or above the action level of 30 µg/m<sup>3</sup> on an eight-hour TWA, the exposure determination shall be based on the following:

- Personal exposure monitoring
- Objective data demonstrating that the lead containing material, product, process, operation, or activity cannot result in exposure at or above the action level
- Historical measurements of airborne lead that have been taken within the last 12 months.

If the initial exposure determination reveals employee exposure to be at or below the PEL, monitoring will be performed at least every six months. If the exposure determination reveals employee exposure above the PEL, monitoring will be performed quarterly. Additional monitoring will take place if a change in an operations production process occurs which may result in additional exposure to lead. In addition, employees will be given written notification of the results of their exposure assessment within five working days.

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## RESPIRATORY PROTECTION:

### WAC 296-155-17613

Exposure to hazardous materials requires special precautions against absorption of toxic compounds. While engineering controls (e.g. heap vacuums) are the primary means of controlling materials such as lead dust, fumes, vapors, and mists, it is often necessary to rely on respiratory protection. The respirator will give you the proper amount of protection based on the nature of the hazard. Only use respirators tested and certified by the National Institute for Occupational Safety & Health (NIOSH). The cartridges that come with the mask are approved for the environment in which you will be working. Never use a cartridge respirator in an atmosphere containing less than 19.5% oxygen or an atmosphere immediately dangerous to life and health (IDLH). In addition, observe the requirements of the Respiratory Protection Program. In extreme cases a NIOSH-certified air purifying respirators may be required. See out Respiratory Protection Program. Personal Protective Equipment

required to protect personnel is to be supplied at no cost to the employees.

Respiratory Selection for Lead Hazards Only:

- For exposure up to 10 times the PEL, a half mask respirator with P100 filters shall be worn.
- For exposure up to 50 times the PEL, a full face respirator with P100 filters shall be worn. PAPR respirators with P100 filters may also be used.

## PROTECTIVE WORK CLOTHING & EQUIPMENT:

### WAC 296-155-17615

Protective work clothing and equipment includes coveralls, gloves, hats, shoes, shoe coverlets, face shield or vented goggles. All clothing and equipment will be repaired, replaced, cleaned, laundered, or disposed of as necessary by the company. Contaminated work clothing and equipment must be removed in the designated change area and placed in the

provided closed containers to be cleaned or disposed of. At no time may lead be removed from protective clothing or equipment by any means which disperses lead into the workplace air (such as by blowing off).

## HYGIENE:

### WAC 296-155-17619

Employees exposed to lead above the PEL must change, and eat in designated areas, free of lead.

After changing, no clothing or equipment worn during the shift should be worn home. It should be disposed of or placed in a bag and laundered SEPARATELY from your family's laundry. WE DO NOT WANT TO POISON OUR FAMILIES. Finally, workers exposed above the PEL must remove PPE, wash both their hands and face prior to eating, drinking, smoking, or applying cosmetics.

## MEDICAL SURVEILLANCE:

### WAC 296-155-17621

Employees exposed to lead must have a baseline BLL or ZPP test preformed according to WAC 296-155-17621.

Employees exposed to more than 30 days of work at or above the action level must participate in a Medical surveillance program includes blood-lead and zinc level tests:

- At least every six months.

If the last blood sampling and analysis indicated a blood lead level at or above 40 ug/100g of whole blood, monitoring will continue every two months.

Monitoring will continue until two consecutive blood samples and analysis indicate a blood lead level below 40 ug/100g of whole blood.

Written notification of test results will be given to employees within five days indicating blood lead levels and be given medical removal protection benefits when blood sampling and analysis indicate a blood lead level at or above 40 ug/100g of whole blood.

The second phase of medical surveillance is medical examinations and consultations for employees who meet the following conditions:

- At least annually for each employee for whom a blood-sampling test conducted at any time during the preceding 12 months indicated a blood level at or above 40 ug/100g.
- Prior to the assignment for the first time to an area in which airborne concentrations of lead are at or above the action level.
- As soon as possible, upon notification by an employee, that he/she has developed signs and symptoms commonly associated with lead intoxication, or desire medical advice concerning the effects of current or past exposure to lead and the ability to procreate a healthy child.
- As medically appropriate for each employee either removed from exposure to lead due to risk of sustaining material impairment to



# AWARENESS MONTH IS:

health, or otherwise limited pursuant to a final medical determination.

A licensed physician will perform all medical examinations and a laboratory licensed by the Center for Disease Control will perform consultations, sampling and analysis.

Medical Removal Protection (MRP) is a means of protecting employees when, for whatever reasons, such as engineering controls, work practices, and respirators, have failed to provide the needed protection. Employees with a BLL of 50 ug/dL MRP involves the temporary removal of an employee from his or her regular job to a place of lower exposure without loss of earnings, seniority, or benefits.

WAC 296-155-17623.

### POSTING WARNING SIGNS:

#### WAC 296-155-17627

A warning sign must be illuminated, kept clean, and posted in work areas where the exposure to lead exceeds the PEL. The sign must read WARNING-LEAD WORK AREA-POISON-NO SMOKING OR EATING

### EMPLOYEE INFORMATION & TRAINING:

#### WAC 296-155-17625

Information and training will be given to all employees who may be exposed to lead above the action level, or who may suffer skin or eye irritation from lead. The training program will inform employees of the dangers of lead, work practices, PPE, and other related materials. First we will read WAC 296-155-17650 Appendix A to WAC 296-155-176 - Substance data sheet for occupational exposure to lead. We will use the Steps to Lead Renovation, Repairing and Painting document this Lead Protection Program and the Non-Certified worker training under the RRP as our Lead Protection Program training. WAC 296-155-17652 Appendix B to WAC 296-155-176 - Employee standard summary.

In addition, we will train on WISHA's hazard communication standard for the construction industry, chapter 296-800 WAC and the training

requirements for respiratory protection as required by (WAC 296-842-110, 296-842-19005 and 296-842-16005); out of the NICA Safety Training Calendar.

### RECORD KEEPING:

#### WAC 296-155-17629

The following records will be kept on file at the corporate office, if applicable:

- Exposure monitoring for airborne lead by project if done.
- Names of employees and social security numbers in Medical Surveillance under this program.
- Copy of exam results, records will be kept on file for 30 years after termination of employment, whichever is longer.
- Date of removal and return, whether or not the removal was due to an elevated blood lead level.

Please use additional Safety Meeting forms at [www.nicasafety.com](http://www.nicasafety.com).

### MORE TRAINING REQUIRED:

1. **Watch:** online at <http://ini.wa.gov/Safety/TrainTools/Trainer/Kits/LeadInConstruction>
2. **Watch:** online at <http://epa.gov/lead/pubs/renovation.htm> for more information on the EPA's Lead Renovator program
3. **Review:** <http://nicasafety.com/lead> for more helpful forms and publications

Reference: WAC 296-155-176

Notes: \_\_\_\_\_

### Weekly Safety Meetings / Job Site Construction Safety Checklist:

Topic:		Topic:		Topic:		Topic:	
Foreman:		Foreman:		Foreman:		Foreman:	
Attendee:		Attendee:		Attendee:		Attendee:	
Attendee:		Attendee:		Attendee:		Attendee:	
Attendee:		Attendee:		Attendee:		Attendee:	
Attendee:		Attendee:		Attendee:		Attendee:	
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Checklist:	<input type="checkbox"/>						