

OSHA's Lead in Construction Rule

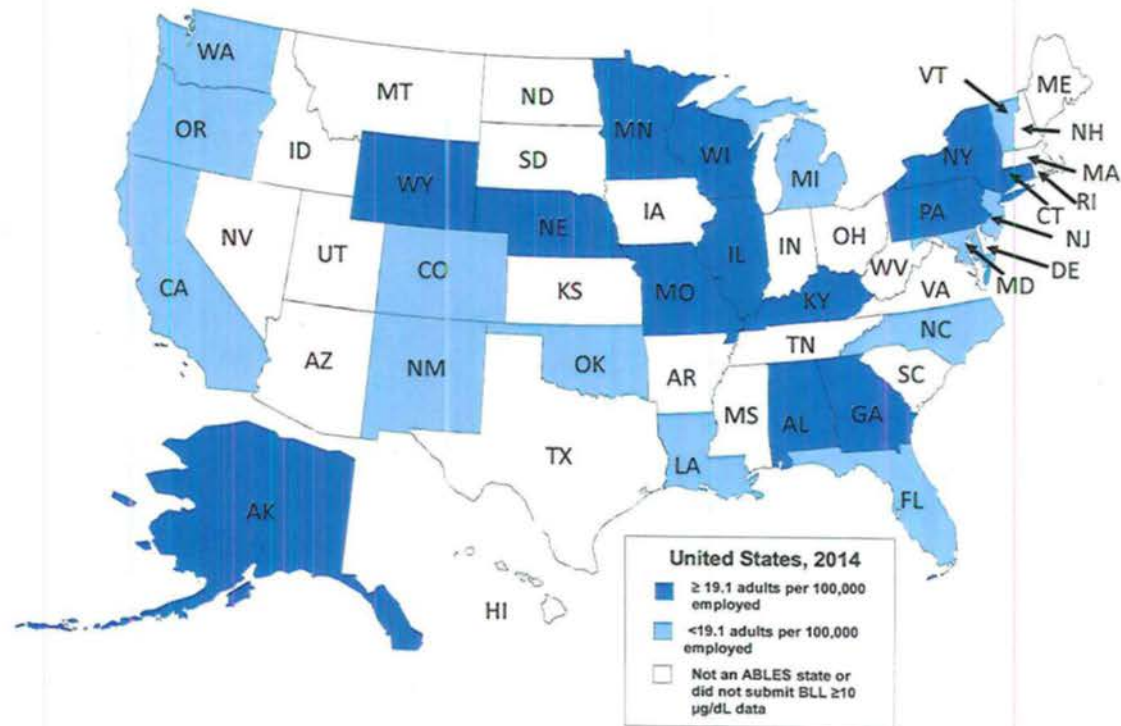


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State	Prevalence rate
Missouri	95.6
Alaska	49.9
Pennsylvania	44.5
Alabama	28.1
Kentucky	26.8
Illinois	24.2
Wisconsin	23.5
Nebraska	22.0
Connecticut	21.6
Georgia	20.2
Wyoming	20.1
Minnesota	19.6
New York	19.5
U.S. National rate	19.1
Louisiana	16.2
New Jersey	16.2
North Carolina	15.5
Vermont	12.9
Florida	12.1
Michigan	11.5
Maryland	11.4
California	9.1
Oregon	7.6
Oklahoma	6.6
Washington	6.5
New Mexico	2.6
Colorado	1.8

FIGURE 1. Prevalence rate* of adults with blood lead levels (BLL) $\geq 10 \mu\text{g}/\text{dL}$, by state - State Adult Blood Lead Epidemiology and Surveillance (ABLES) programs, United States, 2014†



* Rate per 100,000 employed adults aged ≥ 16 years. State-resident prevalence rate might be lower for some states. Data from the Adult Blood Epidemiology and Surveillance (ABLES) Program, National Institute for Occupational Safety and Health (NIOSH/CDC). Denominators for 2014 extracted from 2015 U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics program (<http://www.bls.gov/lau/staadata.txt>).

† The national rate in 2014 was 19.1 cases per 100,000 employed adults aged ≥ 16 years. A total of 27 states submitted data in 2014 (down from 30 states in 2013): Alabama, Alaska, California, Colorado, Connecticut, Florida, Georgia, Illinois, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, Vermont, Washington, Wisconsin, and Wyoming. Massachusetts provided data for BLLs $\geq 25 \mu\text{g}/\text{dL}$ only. In 2014, Missouri (95.6) and Alaska (49.9) reported the highest prevalence rates of elevated blood lead levels.

Reported Number of Adults with Blood Lead Levels ≥ 25 ug/dL

2014	Occupational Cases	Non-Occupational Cases	Unknown Source	Total
Connecticut	44	17	2	63
Massachusetts	60	11	78	149
Vermont	5	1	1	7
United States	3,408	207	846	4,461

Source: State Adult Blood Lead Epidemiology and Surveillance (ABLES) Programs

Reported Number of Cases and Prevalence Rates of Adults with Elevated Blood Lead Levels

2014	Number of Employed State Residents	BLL \geq 10 ug/dL	BLL \geq 25 ug/dL
Connecticut	1,761,610	381	63
Massachusetts	3,353,138	Data Not Available	149
Vermont	334,044	43	7
United States	99,806,197	18,453	4,461

Source: State Adult Blood Lead Epidemiology and Surveillance (ABLES) Programs

Reported Number Adults with BLL \geq 25 ug/dL

Industry	NAICS Code	Number	Percent
Highway, Street and Bridge Construction	237310	131	29.1
Painting and Wall Covering Contractors	238320	97	21.6
Residential Building Construction	236115/6	65	14.4
Plumbing, Heating and A/C Contractors	238220	55	12.2
All Other Specialty Trade Contractors	238990	25	5.6
Site Preparation Contractors	238910	20	4.4
Other Heavy and Civil Engineering Construction	237990	17	3.8
Other Construction Industries		40	8.9
Total Construction Industries		450	100

Construction Industry Exposures Represent
25% of Lead Exposures with
Elevated BLL Nation-Wide

Hartford Area Office Enforcement Activity

- 15 cases coded as “Lead” inspected since October 2012
- Total penalties issued: \$401,243

OSHA's Lead Standard

NOT the same as EPA's RRP

EPA is concerned with the environment and exposure to kids.

OSHA is concerned with exposure of employees.

Where is Lead found?

Industries and Operations with Exposures

- Construction
- Battery manufacturing
- Pottery products
- Ammunition
- Metal products (pipes)
- Solder
- Devices to shield x-rays
- Paintings and coatings
- Gasoline
- Caulking

OSHA Standards for Lead

- ❖ General Industry (29 CFR 1910.1025)

- ❖ Construction (29 CFR 1926.62)
 - Applies to all construction work where an employee may be exposed to lead
 - All work related to construction, alteration, or repair
 - Includes painting and decorating

Lead Exposure on a Construction Site

- ❖ Roofs, Cornices, Tank Linings, Electrical Conduits
- ❖ Solder used for plumbing fixtures
- ❖ Pipes in older buildings
- ❖ Paint and other coatings
 - Hasn't been used in residential construction since 1978
 - Still used on bridges, railways, ships, other steel structures

Where Does the Standard Apply?

- ❖ Demolition or salvage of structures where lead or materials containing lead are present
- ❖ Removal or encapsulation of materials containing lead
- ❖ New construction, alteration, repair, or renovation of structures, substrates, or portions or materials containing lead
- ❖ Installation of products containing lead

Where Does the Standard Apply?

- ❖ Lead contamination from emergency clean-up
- ❖ Transportation, disposal, storage, or containment of lead or materials containing lead where construction activities are performed
- ❖ Maintenance operations associated with these construction activities

Employees with Greatest Risk

- ❖ Abrasive Blasting
- ❖ Welding, cutting, burning on steel structures
- ❖ Lead burning
- ❖ Using lead-containing mortar
- ❖ Cleaning with power tools without dust collection systems
- ❖ Rivet busting
- ❖ Heat gun applications

Employees with Greatest Risk

- ❖ Cleanup activities using dry abrasives
- ❖ Movement and removal of abrasive blasting enclosures
- ❖ Manual dry scraping and sanding
- ❖ Manual demolition of structures
- ❖ Spray painting with lead-based paint

Exposure Limits

- ❖ Current permissible exposure limit (PEL) is 50 microgram of lead per cubic meter of air (50 ug/m³) averaged over an 8-hour work shift
 - If an employee works more than 8 hours, their exposure must be adjusted
- ❖ Action Level is 30 ug/m³
 - Above this concentration, employer must take certain actions

Comparison of Regulations

Who do the regulations apply to?

OSHA

- * All employees working at a site where they may be exposed to lead

RRP

- * Anyone who is paid to perform work that disturbs paint in housing and child-occupied facilities

Comparison of Regulations

What activities are covered?

OSHA

- * All work related to construction, alteration, or repair

RRP

- * Any activity that disturbs paint in pre-1978 housing and child-occupied facilities

Comparison of Regulations

Who/what do the regulations seek to protect?

OSHA

* Employees

RRP

* Children

* The Environment

Comparison of Regulations

What licenses or certifications are required?

OSHA

* None

RRP

* Certified Firms

* Certified Renovators

Comparison of Regulations

Is sampling required?

OSHA

- * Possibly
- * Employer needs to do an exposure assessment to determine the employee's potential exposure to lead
- * Can use historical data

RRP

- * Not required but if no sampling is done, must assume that lead is present

Comparison of Regulations

Are there specific work practices?

OSHA

- * Need to minimize employee exposure to lead through engineering and work practice controls

RRP

- * Lead Safe work practices must be followed

Comparison of Regulations

What signage is required?

OSHA

- * Must post signs in each work area where the PEL is exceeded
- * Must be kept well-lit and clean

RRP

- * Must post signs clearly defining the work area to warn those not involved in the work to stay out

DANGER

LEAD WORK AREA

MAY DAMAGE FERTILITY OR THE UNBORN CHILD

**CAUSES DAMAGE TO THE
CENTRAL NERVOUS SYSTEM**

DO NOT EAT, DRINK OR SMOKE IN THIS AREA

Comparison of Regulations

Containment

OSHA

- * Is not specifically required but need to limit exposure of other employees on the site who are not directly working with lead

RRP

- * Work area must be isolated so that no dust or debris leaves the work area while renovations are being performed

Comparison of Regulations

Engineering Controls

OSHA

- * Must use:
 - Exhaust Ventilation
 - Process or Equipment Modification
 - Material Substitution
 - Component Replacements
 - Isolation
 - Automation

RRP

- * No open flame burning or torching
- * No use of high-speed power tools without a HEPA filter
- * No dry scraping/sanding

Comparison of Regulations

Personal Protective Equipment

OSHA

- * Must be provided if employees are exposed above the PEL
- Coveralls or full body work clothing
- Gloves, hats, and shoes or disposable shoe covers
- Face shield, vented goggles, or other appropriate face/eye protection

RRP

- * Task-specific PPE recommended

Comparison of Regulations

Respiratory Protection

OSHA

Required:

- * As an interim measure while waiting for monitoring results or while installing or implementing engineering controls
- * When engineering controls and work practices do not reduce exposure to <PEL
- * If requested by employee

RRP

- * No requirements

Comparison of Regulations

Hygiene

OSHA

- * No smoking, drinking, eating, applying cosmetics in work area
- * Running water required
- * Employees must wash face/hands
- * Change rooms/showers req'd
- * Clean area for lunch breaks req'd
- * Lavatory facilities req'd

RRP

- * No eating, drinking, smoking
- * Workers should wash face and hands

Comparison of Regulations

Housekeeping

OSHA

- * Surfaces, including floors, must be kept clean
- * HEPA vacuums required
- * No dry sweeping or use of compressed air to clean
- * Sweeping or shoveling of dust/debris allowed only if there is no other means for cleaning

RRP

- * After renovations are completed, must clean the work area until no dust, debris, or residue remains

Comparison of Regulations

Medical Surveillance

OSHA

- * Required if employees are exposed at or above the Action Level (30 ug/m^3) for 30 or more days in any 12-month period

RRP

- * Not Required

Comparison of Regulations

Biological Monitoring

OSHA

- * Required if employees are exposed at or above the Action Level (30 ug/m^3) for 30 or more days in any 12-month period

RRP

- * Not Required

Comparison of Regulations

Medical Removal

OSHA

* Employees must be removed from the job if their blood lead levels:

1. Are above 60 ug/dL **OR**
2. If the average of:
 - a. Three consecutive tests exceeds 50 ug/dL **OR**
 - b. All tests in a 6-month period exceeds 50 ug/dL

RRP

* Not Required

Comparison of Regulations

Medical Examinations

OSHA

- * Required at least annually if employees are exposed at or above the Action Level (30 ug/m³) for 30 or more days in any 12-month period

RRP

- * Not Required

Comparison of Regulations

Training

OSHA

- * All employees at a workplace with the potential for exposure to airborne lead at any concentration must receive some level of training.
- If they are not directly involved in lead work, they need to be made aware of the hazards and the standard

RRP

- * Workers do not have to be certified but must be trained by Certified Renovators who also direct the work
- * Training is to be job/task specific

Comparison of Regulations

Waste Disposal

OSHA

- * No dirty clothing or equipment can be removed from the site
- * Contaminated PPE must be contained and disposed or decontaminated/laundered properly
- * Respirators must be cleaned after each use
- * If work clothes will be laundered, the laundry service must be advised of the presence of lead

RRP

- * Follow EPA LDR requirements
- * CT DEEP allows the homeowner to dispose up to 10 yd³

Comparison of Regulations

Clearance Testing

OSHA

- * Not required

RRP

- * Required as per Lead Safe Work Practices
- * Cleaning verification only

Comparison of Regulations

Recordkeeping

OSHA

- * All records of hazard assessments, employee monitoring, sampling, medical surveillance, and training must be kept for either 40 years or the duration of employment PLUS 20 years, whichever is longer

RRP

- * Maintain records for 3 years after completion of the project

Comparison of Regulations

Any Exceptions?

OSHA

* NO

RRP

- * Emergency Response (work is to be done within a few days)
- * Size of Project
 - Interior: up to 6 ft²
 - Exterior: up to 20 ft²



Berlin, CT Built in 1895



Berlin, CT Built in 1895



New Britain, CT Built in 1941



Vernon, CT Built in 1830-1970



Vernon, CT Built in 1830-1970



New Britain, CT Built in 1860



New Britain, CT Built in 1860



New Britain, CT Built in 1860



Vernon, CT Built in 1886



Newington, CT Built in 1954



Manchester, CT Built in 1914



Niantic, CT Built in 1890

Questions?





**Occupational Safety
and Health Administration**

**www.osha.gov
800-321-OSHA**