

Chapter 9.4

Materials that contain lead: how to work with them safely

1. Applicability of this chapter

You are required to follow this chapter if you do any task that involves materials that contain lead, such as:

- a. Removing lead-based paints by any method such as grinding, buffing, scraping, burning or chemical peeling.
- b. Welding or torching cut metal that is coated with lead-based paint.
- c. Performing abrasive blast on surfaces that are coated with lead-based paints.
- d. Preparing surfaces where lead is present.
- e. Applying paint that contains lead.

Before working on any kind of maintenance or renovation project, you shall determine whether any hazardous materials are involved. These include lead, chromium, asbestos, and other physical, chemical, or biological hazards.

2. Definition of lead

Lead is a toxic material. Chronic or long-term overexposure may produce lead poisoning. Symptoms include headaches, stomach cramps, dizziness, drowsiness, tremors, loss of feeling, muscular aches, and pains. Prolonged exposure can affect the kidneys, bone marrow, and nervous and reproductive systems.

Allowable levels and monitoring

3. Lead exposure limits

The PEL is an exposure to lead, without respirators, at airborne concentrations greater than 50 micrograms per cubic meter of air ($50 \mu\text{g}/\text{m}^3$) averaged over an 8-hour period. The action level is an exposure, without respirators, to an airborne concentration of $30 \mu\text{g}/\text{m}^3$ of air calculated as an 8-hour time-weighted average.

4. When you need to determine exposure levels

As an employer who has a workplace or an operation that is covered by this standard, you shall initially determine whether any of your employees may be exposed to lead at or above the action level. If you do not have personnel who are trained and equipped to do the evaluation, contact Occupational Health Department at (281) 483-6726 and they will do the evaluation.

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5. Responsibilities of a supervisor or company

As an employer, you are responsible for determining whether any employee has been exposed to lead above the action level. When you or the Occupational Health Department monitor for lead, you shall notify the employee of the results within 5 working days after receiving the results.

6. Monitoring for lead

If employees do any operations where lead-containing materials may become airborne, posing an inhalation hazard, your employer shall first determine whether any employee is exposed at or above the action level. Periodic monitoring of worker exposure levels may be required if initial monitoring exceeds the action level. You will find procedures for starting a lead exposure assessment in the OSHA General Industry Standard 29 CFR 1910.1025, "Lead," and in the OSHA Construction Industry Standard 29 CFR 1926.62, "Lead."

7. Who needs to observe the monitoring

Employers shall provide employees or their representative an opportunity to observe any monitoring of employee exposures to lead.

Protecting yourself against exposure to lead

8. Protection from exposure

Until your employer conducts exposure monitoring, your employer shall assume that your exposure to lead will exceed the PEL and provide you with the following:

- a. Appropriate respiratory protection
- b. Appropriate PPE
- c. Clean change areas
- d. Hand-washing facilities
- e. Blood monitoring for lead and zinc protoporphyrin (ZPP)
- f. Training in the hazards of lead and the use of respirators

9. Respiratory protection

You shall use respiratory protection:

- a. When engineering and work practice controls cannot reduce exposures below the PEL.
- b. Any time an employee requests them.

- c. Before completing a lead exposure assessment in areas where there is a high risk of airborne lead exposure.

See Chapter 7.2, “Respiratory protection,” of this handbook for more requirements.

10. Protective work clothing and equipment

When your exposure to lead exceeds the PEL, your employer shall provide you with clean and dry protective clothing. Don't take lead-contaminated clothing home or remove dust by blowing or shaking. This includes clothing such as the following:

- a. Coveralls
- b. Gloves
- c. Shoes
- d. Face shields
- e. Vented goggles
- f. Other appropriate protective equipment

11. Housekeeping

You shall keep all surfaces as free as possible of lead dust and follow specific work practices. Vacuuming with high-efficiency particulate air (HEPA) filtration is the preferred method of cleaning surfaces and clothing. Never use compressed air hoses for cleaning unless they are used in conjunction with a ventilation system.

12. Hygiene facilities and practices

You need to use wash facilities whenever you are exposed to lead. Once your exposure to lead exceeds the PEL, your employer shall provide the following:

- a. Change areas
- b. Showers (where feasible)
- c. Eating areas

13. Posting signs

You shall post signs in areas exceeding the PEL to keep untrained and unprotected personnel from entering the area. These signs shall state: **WARNING: LEAD WORK AREA, POISON, NO SMOKING OR EATING.**

Other requirements

14. Medical surveillance

Initial medical surveillance of tests for blood lead (PbB) and ZPP levels is required if you are exposed to lead above the action level on any 1 day. Periodic blood tests for PbB and ZPP are required if you are exposed to lead above the action level for more than 30 days in any 12-month period. A medical surveillance program of periodic medical exams shall be made available when you:

- a. Have a PbB test at or above 40 µg/dl.
- b. Notify your employer that you have signs of lead intoxication.
- c. Desire medical advice on the ability to produce a child.
- d. Become pregnant.
- e. Have difficulty breathing during a respirator fit test or during use.

See Chapter 3.6, "Occupational Healthcare Program," of this handbook for more information.

15. Medical removal protection

Medical removal protection ensures that you will be removed from any type of work where lead exposures exceed the action level. The following apply:

- a. Medical removal protection takes effect if two PbB tests taken within 2 weeks of each other both exceed 50 µg/dl.
- b. Your wages and benefits are protected as long as the job lasts or for as many as 18 months, whichever is shorter.

16. Information and training

If your exposure to lead equals or exceeds the action level on any 1 day, you shall have yearly lead training that includes:

- a. Content of the OSHA standard.
- b. Specific exposure-producing operations.
- c. Respiratory protection program.
- d. Medical surveillance programs.
- e. Methods of compliance.
- f. Written compliance program.
- g. Use of chelating agents.

h. Access to records.

Note: See 4.1, “Program description” (for safety and health training), of this handbook for more information.

17. Records to keep

As an employer, you shall maintain records on the following and make all records available on request to employees, former employees, their designated representatives, and OSHA:

- a. Employee medical surveillance data
- b. Training
- c. Exposure-monitoring results

18. For more information on lead

You can find more information on lead in these documents:

- a. 29 CFR 1910.1025, “Lead”
- b. 29 CFR 1926.62, “Lead”