Steps to

LEAD SAFE

Renovation, Repair and Painting

EPA
United States Environmental Protection Agency

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

1-800-424-LEAD

www.epa.gov/lead

Renovating, Repairing or Painting?

Do you renovate, repair or paint homes or child-occupied facilities built before 1978?

If so, you need to know how to work safely with lead-based paint. This guide is designed to help plan for and complete a home renovation, repair or painting project using lead safe work practices. Lead safe work practices are a group of techniques that reduce the amount of dust produced by renovation activities. When used correctly, they make the work area safer for workers and the home safe for residents when renovation is complete.

Are you a professional renovator?

Contractors doing work for compensation in homes or child-occupied facilities built before 1978 must be certified and follow certain work practices. This guide describes those required work practices and provides additional helpful recommendations.

Are you a do-it-yourselfer?

If you are doing work yourself you should follow the work practices described in this brochure to ensure your home and family are protected from lead hazards the project could generate.

Contractors, Painters, Landlords! If you are working in a home or child-occupied facility built before 1978, you are required to provide information about lead-based paint to occupants and owners of homes, and owners and parents of child-occupied facilities. For more information, see page 31.

Renovation, repair and painting contractors must be certified and use lead safe work practices when working in homes built before 1978. For more information, see page 6.

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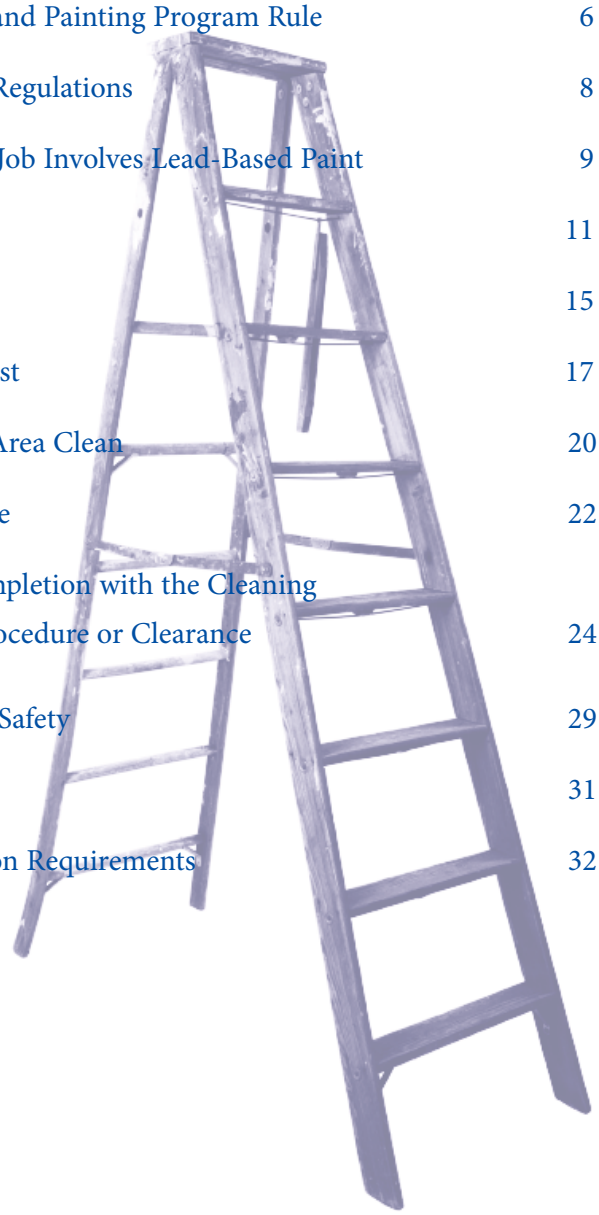
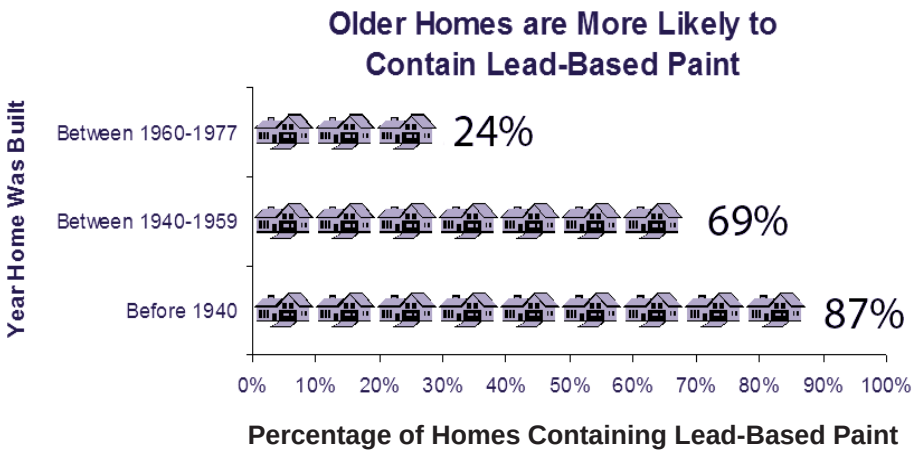


Learn the Facts about Lead-Based Paint

About half of homes built before 1978 have lead-based paint. The likelihood of finding lead-based paint increases with the age of the home:

- Two out of three of homes built between 1940 and 1960 have lead-based paint.
- Nine out of ten homes built before 1940 have lead-based paint.



Source: American Healthy Homes Survey: Lead and Arsenic Findings. April 2011.

Lead-based paint may be found on any surface in the home—inside or outside. When lead-based paint is disturbed during renovation, repair or painting activities, dangerous amounts of lead dust can be created. Jobs such as demolition, window replacement, opening up walls, etc., can also release accumulated lead dust into the home. Even after a typical renovation cleanup, dangerous levels of lead dust can remain.

Lead gets into the body when it is swallowed or breathed.

- People, especially children, can swallow lead dust as they eat, play, and perform other ordinary hand-to-mouth activities.
- People may also breathe in lead dust or fumes while they work on jobs that sand, scrape, brush, blast or otherwise disturb painted surfaces that contain lead paint.
- Additionally, pets may be poisoned by the same types of exposure to lead.

Once in the body, lead can have significant effects on human health.

- In children, lead poisoning damages the nervous system and causes developmental and behavioral problems that can affect them for their lifetime.
- In adults, lead poisoning causes health and reproductive problems. Pregnant women are especially vulnerable to the effects of lead.

Research has shown that general residential renovation activities are associated with an increased risk of elevated lead levels in children.

By working safely you can help prevent lead exposure and poisoning. This guide tells you how.

United States Environmental Protection Agency

The Renovation, Repair and Painting Program Rule

The RRP rule affects contractors, property managers and others who disturb known or presumed lead-based paint during renovation. The term renovation covers all activities done for compensation that disturb painted surfaces including most repair, remodeling and maintenance activities, such as window replacement, weatherization and demolition. The RRP rule applies to all renovation work performed in residential houses, apartments and child-occupied facilities such as schools and day-care centers built before 1978.
To assist those affected by the RRP rule, EPA developed the Small Entity Compliance Guide to Renovate Right, which provides an overview of the rules requirements. This guide, along with links to other related materials is available on EPA's Web site at
www.epa.gov/lead/pubs/lscp-renov-materials.htm.

Requirements for Renovation Contractors Include:

Certification and Training Requirements

- All firms paid to perform renovation, repair or painting work in pre-1978 housing and child-occupied facilities must be certified. This is accomplished by applying to EPA or to the State, if it has an EPA-authorized renovation program, and paying a fee. For information about the authorization status of your state, visit **www.epa.gov/lead/pubs/lscp-renovation_firm.htm** or call the National Lead Information Center at 1-800-424-LEAD (5323).
- Firms must have a "Certified Renovator" assigned to each job where lead-based paint is disturbed. To become certified, a renovator must successfully complete an EPA or State-approved training course conducted by a training program accredited by EPA or an EPA authorized state program.
- All renovation workers must be trained. Renovation workers can be trained on-the-job by a Certified Renovator to use lead safe work practices, or they can become Certified Renovators themselves.

Pre-Renovation Education Requirements

- Contractors, property managers and others who perform renovations for compensation in residential houses, apartments, and child-occupied facilities built before 1978 are required to distribute EPA's *Renovate Right* lead hazard information pamphlet before starting renovation work to occupants and owners of homes, and owners and parents of child-occupied facilities. More information about pre-renovation education requirements can be found on page 31.

Work Practice Requirements

- Renovators must use work-area containment to prevent dust and debris from leaving the work area.
- Certain work practices are prohibited. Open-flame burning, using heat guns at greater than 1,100 degrees Fahrenheit and the use of power tools without high-efficiency particulate air (HEPA) exhaust control (to collect dust generated) are prohibited.
- Thorough cleaning followed by a cleaning verification procedure to minimize exposure to lead-based paint hazards is required.
- Minor repair and maintenance activities (6 square feet or less per interior room or 20 square feet or less per exterior project) are exempt from the work practices requirements. However, this exemption does not apply to jobs involving window replacement or demolition, or that involve the use of any of the prohibited practices listed above.

Other Federal and State Regulations

The U.S. Department of Housing and Urban Development (HUD) Lead Safe Housing Rule

HUD's Lead Safe Housing Rule (24 CFR Part 35) covers pre-1978 federally-owned or assisted housing and federally-owned housing that is being sold. It does not cover child-occupied facilities outside of residential housing. The requirements of HUD's rule are similar to EPA's RRP rule, but there are some differences in the details, including:

- **Training Requirements.** To conduct lead hazard control in federally-assisted housing there must be a Renovator certified by EPA or an EPA authorized state and all workers must have completed a HUD-approved course, or the crew must be supervised by a Renovator certified by EPA or an EPA authorized state who is also a Certified Lead Abatement Supervisor and untrained workers must receive on the job training from the Certified Renovator.
- **Minor Repair and Maintenance.** HUD's definition of minor repair and maintenance that is exempt from its rule is different than EPA's (2 square feet interior and 20 square feet exterior or 10 percent of the surface area of a small building component type).

Other differences between the EPA and HUD rules (concerning paint testing, prohibited practices, clearance testing and waste disposal) are pointed out in the appropriate places throughout this document.

State and Local Regulations

Other state or local requirements that are different from or more stringent than the federal requirements may apply. For example, federal law allows EPA to authorize states to administer their own lead renovation program in place of the federal lead program. (For a list of authorized states go to **www.epa.gov/lead/pubs/lscp-renovation_firm.htm**). Even in states without an authorized lead renovation program, a state may promulgate its own rules that may be different or go beyond the federal requirements.

For more information on the rules that apply in your state, please contact the National Lead Information Center at **www.epa.gov/lead/nlic.htm** or **1-800-424-LEAD (5323)**.

Step 1

Determine If the Job Involves Lead-Based Paint

Before you begin a job, consider whether lead-based paint will be an issue.

Find Out the Age of the Home or Child-Occupied Facility.
The age of a home can tell you a lot about whether lead-based paint is likely to be present.

- If it was built before 1978, it may have lead-based paint.
- The older the home, the greater the likelihood that lead is present in the paint and accumulated dust.
- Lead-based paint may be found either inside or outside the home and is most common in kitchens or bathrooms and in high gloss paint on trim, such as on window sills, door frames, and railings.

Look for Information About Lead.
Information about lead-based paint in your home may be readily available. Under a federal disclosure law, when a pre-1978 home is sold or leased, the seller/landlord must provide information to the buyer/tenant about any known lead-based paint. Homeowners should check their records to see if they have information about lead-based paint and share this information with anyone performing work on the home.

Consider Lead Testing.
If a home or child-occupied facility was built before 1978, all surfaces affected by a renovation covered by the Renovation, Repair and Painting Rule must either be tested for lead-based paint or presumed to contain lead-based paint. Testing must include all affected surfaces coated with paint, shellac, varnish, stain, coating or even paint covered by wallpaper, if it will be disturbed during the renovation work. A report documenting the testing must describe the test used, the surfaces tested, and the results of the testing. If lead-based paint is present on an affected surface, then the lead safe work practices described in this pamphlet must be used on the job.

There are two options for testing paint under the Renovation, Repair and Painting Rule:

1. Paint testing by a Certified Lead-based Paint Inspector or Lead-based Paint Risk Assessor—These licensed professionals conduct a surface-by-surface investigation for lead-based paint by collecting paint chips for laboratory analysis or by testing painted surfaces with an machine called an X-Ray Fluorescence Analyzer (XRF) which measures the amount of lead in the paint.

2. Paint testing by a Certified Renovator—Certified Renovators, at the request of the owner, can use EPA-recognized test kits or collect paint chips for laboratory analysis to test all painted surfaces affected by the renovation.

Note: HUD does not recognize testing by a Certified Renovator using test kits. In housing covered by the HUD Lead Safe Housing Rule, only the first option is allowed.

For a list of certified lead testing professionals in your area, go to **http://cfpub.epa.gov/flpp** or contact the **National Lead Information Center** at **1-800-424-LEAD (5323).**

Remember, if the home or child-occupied facility was built before 1978 and there is no information available about the paint, renovators must presume lead-based paint is present and use the lead safe work practices described in this pamphlet. Make sure everyone involved on the job, including workers, supervisors and residents, uses proper safety precautions.

Step 2

Set It Up Safely

When you work on a job with lead-based paint, you must contain the work area to prevent the escape of dust and debris. The goal of proper setup of the work area is to keep dust in the work area and non-workers out.

The work area is the area that may become contaminated during the work. The size of the work area may vary depending on the method used to disturb lead-based paint and the amount of dust and debris that is generated as a result. Whenever lead-based paint is disturbed, the work area must be protected by plastic sheeting applied to the floor, ground or other applicable surfaces to prevent contamination of the home or exterior, from dust generated by the work.

The Renovation, Repair and Painting Rule requires that the work area be protected by plastic sheeting that extends a minimum of 6 feet for interior projects and 10 feet for exterior projects in all directions from the location where paint will be disturbed. For exterior renovations within 10 feet of the property line, vertical containment or equivalent extra precautions are required. The Rule further requires that protective plastic sheeting extend far enough from the location of paint disturbance so that all dust or debris generated by the work remains within the area protected by the plastic. The entire portion of the home or exterior that is protected by plastic sheeting, however large, is the work area.

Unauthorized persons and pets must be prevented from entering the work area. This can be accomplished by posting warning signs and by establishing barriers around the work area such as barrier tape, fencing, plastic barriers in doorways, etc.

Shopping List

Here is a list of supplies and tools you will need to set up the work area safely. These items are available in hardware, paint or garden supply stores.

Materials to Restrict Access and Cover the Floor/Ground

- ❑ Signs
- ❑ Barrier tape, rope or fencing
- ❑ Cones
- ❑ Heavy duty plastic sheeting
- ❑ Tape (masking, duct or painter's)
- ❑ Stapler
- ❑ Utility knife or scissors
- ❑ Rigid framing material for vertical containment

What To Do

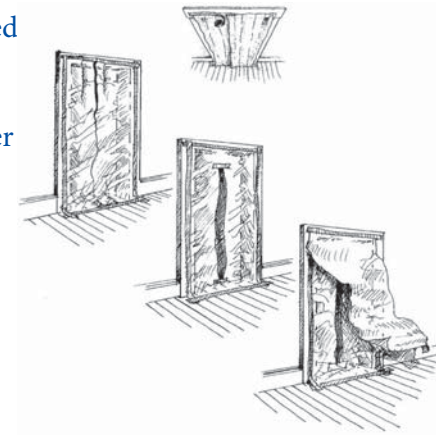
To keep the dust in and people out of your work area, you must take the steps below for inside or outside jobs.

Post Signs

You must post signs clearly defining the work area and warning occupants and other persons not involved in renovation activities to remain outside of the work area. These signs should be in the primary language of the occupants and should say "Warning – Lead Work Area" and "Poison, No Smoking or Eating." Also remember to keep pets out of the work area for their safety and to prevent them from tracking dust and debris throughout the home.

For Inside Jobs

- Remove all objects from the work area, including furniture, rugs, and window coverings, or cover them with plastic sheeting with all seams and edges taped or otherwise sealed.
- Cover the floor surface, including installed carpet, with taped-down plastic sheeting in the work area 6 feet from the area of paint disturbance or a sufficient distance to contain the dust, whichever is greater. If a vertical containment system is employed, floor covering may stop at the verticial barrier, providing it is impermeable, extends from floor to ceiling, and is tighltly sealed at floors, ceilings, and walls.
- Close windows and doors in the work area. Doors must be covered in plastic sheeting. When the work area boundary includes a door used to access the work area it must be covered in a way that allows workers to pass, but also confines dust and debris to the work area. One method is to cover the door with two layers of protective sheeting as described here:



  - Cut and secure one layer of sheeting to the perimeter of the door frame. Do not pull the sheeting taut. Rather, leave slack at the top and bottom of the door before taping or stapling.
  - Cut a vertical slit in the middle of the sheeting leaving 6” uncut at the top and bottom. Reinforce with tape.
  - Cut and secure a second layer of sheeting to the top of the door.
- Close and cover all ducts opening in the work area with taped-down plastic sheeting.
- Ensure that all personnel, tools, and other items, including the exteriors of containers of waste, are free of dust and debris before leaving the work area.

For Outside Jobs

- Cover the ground with plastic sheeting or other disposable impermeable material extending 10 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to collect falling paint debris, whichever is greater. If the renovation will affect surfaces within 10 feet of the property line, then vertical containment or equivalent extra precautions must be erected to prevent contamination of adjacent buildings and property.
- Close all doors and windows within 20 feet of the renovation. On multi-story buildings, close all doors and windows within 20 feet of the renovation on the same floor as the renovation, and close all doors and windows on all floors below that are the same horizontal distance from the renovation.
- Ensure that doors within the work area that will be used while the job is being performed are covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area.
- In certain situations, the renovation firm must take additional precautions in containing the work area to ensure that dust and debris from the renovation does not contaminate other buildings or other areas of the property or migrate to adjacent properties.
    - When working on the 2nd story or above, you should extend the sheeting farther out and to each side where paint is being disturbed.
    - It is also a good idea to use vertical containment if work is close to a sidewalk, street, or property boundary, or the building is more than three stories high.
    - Avoid working in high winds if possible. EPA's rule does not address wind speed, but when the wind is strong enough to move dust and debris, precautions need to be taken to keep the work area contained. That may mean creating a wind screen of plastic at the edge of the ground-cover plastic to keep dust and debris from migrating. Ultimately, you are responsible for preventing dust and debris from leaving the work area, so take appropriate precautions when wind is a factor or consider rescheduling the renovation for a less windy day.

Step 3

Protect Yourself

Workers should protect themselves.
Without the right personal protective equipment, workers may ingest or inhale lead from the job and may risk bringing lead from the worksite home to their families. The following items are available through hardware, paint, garden supply stores or other specialty suppliers.

Shopping List

- ❑ Painter's hat
- ❑ Disposable coveralls
- ❑ Disposable N-100 rated respirator
- ❑ Disposable shoe covers

What to Do

Consider wearing:

- Disposable protective clothing covers to limit contamination of your clothing. They can be stored in a plastic bag and reused if they are fairly clean and are not torn. Small tears can be repaired with duct tape.
- Disposable shoe covers to prevent the tracking of dust from the work area and to protect your shoes from exposure to dust.
- A painter's hat to protect your head from dust and debris. These are easy to dispose of at the end of the day.

Respiratory protection.
When work creates dust or paint chips, workers should wear respiratory protection, such as an N-100 disposable respirator, to prevent them from breathing leaded dust.

No smoking, drinking or eating in the work area.

You should not eat, drink or smoke in a lead work area because dust and debris that comes in contact with these items can contaminate them and cause the ingestion of lead when consumed.

Wash up.
Workers should wash their hands and faces each time they stop working. It is especially important to wash up before eating and at the end of the day.

Wash your work clothes separately from family laundry.

Note: OSHA rules may require employers to take further steps to protect the health of workers on the job. See **www.osha.gov/SLTC/lead/index.html.**

Step 4

Minimize the Dust

As you work, your goal is to keep down the dust.
Remember that as you scrape, drill, cut, open walls, etc., you are creating dust. You can keep dust down by using the right tools and following some simple practices that minimize and control the spread of dust. The following items are available through hardware, paint, garden supply stores or other specialty suppliers.

Shopping List

Materials for all jobs:

- ❑ Wet-dry sandpaper, sanding sponge
- ❑ Misting bottle or pump sprayer
- ❑ Heavy plastic sheeting
- ❑ Utility knife or scissors
- ❑ Masking tape, duct tape, or painters' tape
- ❑ High Efficiency Particulate Air (HEPA) vacuum
- ❑ Heavy duty plastic bags
- ❑ Tack pads (large, sticky pads that help remove dust), paper towels, or disposable wipes

Other tools that may be needed:

- ❑ Low-temperature heat gun (under 1,100 degrees Fahrenheit)
- ❑ Chemical strippers without methylene chloride
- ❑ Power tools with HEPA filter equipped vacuum attachments

What To Do

Do Not Use Prohibited Practices.
The Renovation, Repair and Painting Rule prohibits the following dangerous work practices by contractors:

- Open-flame burning or torching of painted surfaces
- The use of machines designed to remove paint or other surface coatings through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting, on painted surfaces unless such machines have shrouds or containment systems and are equipped with a HEPA vacuum attachment to collect dust and debris at the point of generation. Machines must be operated so that no visible dust or release of air occurs outside the shroud or containment system.
- Operating a heat gun on painted surfaces at temperatures greater than 1,100 degrees Fahrenheit.

Control the spread of dust.

- You must keep the work area closed off from the rest of the home. The work area must be sufficiently isolated and maintained to prevent the escape of dust or debris.
- You must ensure that all personnel, tools, and all other items exiting the work area are free of dust and debris. Don't track dust out of the work area:
  - Vacuum all personnel leaving the work area, pay particular attention to the soles of shoes. Consider disposable protective clothing and shoe covers to minimize the contamination of work clothes and shoes. Also, a large disposable tack pad on the floor can help to clean the soles of your shoes.
  - Vacuum and/or wipe down, as necessary, all tools and other items exiting the work area.
- You should launder non-disposable protective clothing separately from family laundry.

Use the right tools.

- You should use wet sanders and misters to keep down the dust created during sanding, drilling and cutting.
- You must use HEPA vacuum attachments on power sanders and grinders to contain the dust created by these tools.
- When a heat gun is needed to remove paint or other surface coatings, you must use a temperature setting below 1,100 degrees Fahrenheit.

Use work practices that minimize dust.

- You should mist areas before sanding, scraping, drilling and cutting to keep the dust down (except within 1 foot of live electrical outlets).
- You should score paint with a utility knife before separating components.
- You should pry and pull apart components instead of pounding and hammering.
- You must keep components that are being disposed of in the work area until they are wrapped securely in heavy plastic sheeting or bagged in heavy duty plastic bags. Once wrapped or bagged, remove them from the work area and store them in a safe area away from residents.

In federally-assisted housing, HUD's rule prohibits additional work practices:

- Extensive dry scraping and sanding by hand.
- Heat guns that char paint.
- Paint stripping in a poorly ventilated space using a volatile paint stripper.

Note: The EPA Renovation, Repair and Painting Rule does not apply to homeowners who renovate their own property. However, because the practices prohibited under the rules generate significant amounts of dust, EPA recommends that they be avoided by the do-it-yourself homeowner also.

Step 5

Leave the Work Area Clean

The work area should be left clean at the end of every day and must be cleaned thoroughly at the end of the job. The area must be completely free of dust and debris. The following cleaning supplies, tools, and equipment are available in hardware, paint or garden supply stores.

Shopping List

- ❑ Heavy-duty plastic bags
- ❑ HEPA vacuum with attachments and a powered beater bar
- ❑ Masking tape, duct tape, or painters tape
- ❑ Misting bottle or pump sprayer
- ❑ Disposable wet-cleaning wipes or hand towels
- ❑ General-purpose cleaner
- ❑ Mop and disposable mop heads
- ❑ Two buckets or one two-sided bucket with a wringer
- ❑ Shovel and rake
- ❑ Wet Mopping System
- ❑ Electrostatically charged dry cleaning cloths

What To Do

On a daily basis, you should:

- Pick up as you go. Put trash in heavy-duty plastic bags.
- Vacuum the work area with a HEPA vacuum cleaner frequently.
- Clean tools at the end of the day.
- Wash up each time you take a break and before you go home.
- Dispose of or clean off your personal protective equipment.
- Remind residents to stay out of the work area.

When the job is complete, you must clean the work area until no dust, debris or residue remains:

Interior and exterior renovations

- Collect all paint chips and debris and seal in a heavy-duty bag.
- Remove the protective sheeting. Mist the sheeting before folding it dirty side inward, and either tape shut or seal in heavy-duty bags. Sheeting used to isolate contaminated rooms from non-contaminated rooms must remain in place until after the cleaning and removal of other sheeting. Dispose of the sheeting as waste.

Additional cleaning for interior renovations.

- The firm must clean all objects and surfaces in the work area and within 2 feet of the work area, cleaning from higher to lower:
- Walls. Clean walls with a HEPA vacuum or wiping with a damp cloth.
- Remaining surfaces. Thoroughly vacuum all remaining surfaces and objects in the work area, including furniture and fixtures, with a HEPA vacuum. The HEPA vacuum must be equipped with a beater bar when vacuuming carpets and rugs.
- Wipe all remaining surfaces and objects in the work area, except carpet or upholstery, with a damp cloth. Mop uncarpeted floors thoroughly.

Step 6

Control the Waste

Waste from Renovations

- Waste from renovation activities must be contained to prevent releases of dust and debris before the waste is removed from the work area for storage or disposal.
  - Collect and control all your waste. This includes dust, debris, paint chips, protective sheeting, HEPA filters, dirty water, cloths, mop heads, wipes, protective clothing, respirators, gloves, architectural components and other waste.
  - Use heavy plastic sheeting or bags to collect waste. Seal the bag securely with duct tape. Consider double bagging waste to prevent tears. Large components must be wrapped in protective sheeting and sealed with tape.
- Bag and seal all waste before removing it from the work area.
- At the conclusion of each work day and at the conclusion of the renovation, waste that has been collected from renovation activities must be stored to prevent access to and the release of dust and debris.
- Waste transported from renovation activities must be contained to prevent release of dust and debris.

Dispose of waste water appropriately.

- Water used for cleanup should be filtered and dumped in a toilet if local rules allow. If not, collect it in a drum and take it with you. Never dump this water down a storm drain, or on the ground. Always dispose of waste water in accordance with federal, state and local regulations.

- EPA's Web site has state information on solid and hazardous waste disposal. See the following link for further information: **www.epa.gov/epawaste/wyl/stateprograms.htm**.

Be aware of waste disposal rules.

- Because EPA considers most residential renovation and remodeling as "routine residential maintenance," most waste generated during these activities is classified as solid, non-hazardous waste, and should be taken to a licensed solid waste landfill. This is not the case for work done in commercial, public or other nonresidential child-occupied facilities, where waste may be considered hazardous and require special disposal methods. See the following link for further information: **www.epa.gov/lead/pubs/fslbp.htm**.

- Always check state and local requirements before disposing of waste. Some are more stringent than federal regulations.

Step 7

Verify Work Completion with the Cleaning Verification Procedure or Clearance

When all the work is complete, and before interior space is reoccupied, you must determine whether it is a safe environment to live in.

To ensure work areas are safe for reoccupancy, cleaning verification is required by the Renovation, Repair and Painting Rule. If the housing receives federal assistance, clearance testing is required. When the cleaning verification procedure is required, an EPA Certified Renovator must perform the cleaning verification procedure. If clearance is required, a Certified Lead Inspector, Certified Lead Risk Assessor, or Certified Lead Sampling Technician must conduct clearance testing.

Cleaning Verification Procedure

After completion of cleaning, the Certified Renovator must visually inspect the work area to confirm that it is free of dust, debris, or residue.

For exterior projects, when work areas have passed the visual inspection, the project is complete and the area may be turned over to the occupants.

For interior projects, when work areas have passed the visual inspection, the cleaning verification procedure is performed by wiping all dust collection surfaces in the work area with a wet, disposable cleaning cloth and comparing that cloth visually to a cleaning verification card. Dust collection surfaces include window sills, countertops and floors. Cleaning verification cards are available by calling the **National Lead Information Center** at **1-800-424-LEAD (5323)**. Cleaning verification may only be performed by an EPA Certified Renovator if renovations covered by the Renovation, Repair and Painting rule were performed.

The cleaning verification procedure for window sills is described below:

- Each window sill in the work area is wiped by the Certified Renovator using a single, wet, disposable cleaning cloth.
- Once the entire window sill surface is wiped, the cleaning cloth is compared to the cleaning verification card. (See "Interpreting the Cleaning Verification Procedure" on page 26).

The cleaning verification procedure for countertops and floors is described below:

- Each countertop is wiped by the Certified Renovator using a wet disposable cleaning cloth:
  - For smaller countertops and floors with a total surface area less than 40 square feet—wipe the entire surface with a single wet disposable cleaning cloth and compare to the cleaning verification card.
  - Large area surfaces, such as large countertops and floors, have surface areas larger than 40 square feet—each of these large countertops and floors must be divided into roughly equal sections that are 40 square feet or less. Wipe each section separately using a new wet disposable cleaning cloth for each separate section. When conducting cleaning verification on floors, the wet disposable cleaning cloth will be attached to the handle of a wet mopping system. The use of the wet mopping system handle allows the Certified Renovator to apply uniform pressure on the cleaning cloth. Each cleaning cloth is then compared to the cleaning verification card.

Interpreting the Cleaning Verification Procedure

- The Certifed Renovator compares each cleaning cloth representing a specific surface section to the cleaning verification card. If the cleaning cloth used to wipe a surface section within the work area is cleaner than the example cleaning cloth on the cleaning verification card, then that surface section has been adequately cleaned.
- If the cloth is not cleaner than the cleaning verification card, re-clean that surface section. Then the Certified Renovator uses a new wet disposable cleaning cloth to wipe the surface section again. If the second cloth is cleaner than the cleaning verification card, that surface section has been adequately cleaned.
- If the second cloth is not cleaner than the cleaning verification card, wait for 1 hour or until the surface section has dried completely, whichever is longer.
- Then the Certified Renovator wipes the surface section with a dry electrostatic cleaning cloth. The cleaning verification procedure is now complete and the surface is considered clean.
- When all of the surfaces in the work area have passed comparison with the cleaning verification card, or have completed the post-renovation cleaning verification, the project is complete and the area can be turned over to occupants unless the housing is receiving federal assistance, or state or local laws require dust clearance testing, in which case the project must pass dust clearance testing before the area can be turned over to occupants.

Dust Clearance Testing

Clearance testing is conducted by Certified Lead-based Paint Inspectors, Certified Lead-based Paint Risk Assessors, or Certified Lead Dust Sampling Technicians. For homes receiving federal assistance, the clearance testing must be done by a person independent of the renovation firm.

- Although optional under the Renovation, Repair and Painting Rule, some states and localities may require clearance testing. Also, a homeowner may specifically request that a clearance test be performed in the contract. In this case, clean up the work area and check your work, then contact a Certified Lead-based Paint Inspector, Risk Assessor or Lead Dust Sampling Technician to arrange for clearance testing.
- HUD requires clearance testing after renovation or repair work in pre-1978 homes receiving federal assistance, which are regulated under the Lead Safe Housing Rule. Contractors must determine whether the home is federally-assisted. Federal assistance may be channeled through a state or local government, community development corporation or other similar entity.
- Clearance sampling for interior jobs will consist of a floor sample taken in each room where work was performed (to a maximum of four samples) and an additional sample on the floor outside the entry to the work area. Where window sills and window troughs were present in the work area, a window sill or window trough sample will be collected in each room where work was performed (to a maximum of four samples).
- All clearance samples must be sent to an EPA-recognized dust-lead laboratory for analysis. You can view the list of laboratories at **www.epa.gov/lead/pubs/nllap.htm**.

Interpret the Clearance Testing Results

The laboratory will report the amount of lead in the dust. A dust sample at or above the following limits means the area is not safe for reoccupancy:

- Floors: 40 micrograms per square foot
- Window sills: 250 micrograms per square foot
- Window troughs: 400 micrograms per square foot

If the laboratory report shows lead levels at or above these thresholds, the home fails the dust clearance test. The home must be cleaned and retested until compliance with these clearance limits is achieved.

If a homowner decides they want dust clearance testing performed, it is a good idea to specify in the initial contract, before the start of the job, that that a dust clearance test is to be done and who will do the testing, as well as whether re-cleaning will be required based on the results of the test. No one besides the contractor and the person taking the dust samples should enter the work area until the area has passed the dust clearance test.

Learn More About Lead Safety

To learn more about the Renovation, Repair and Painting Rule, and lead safe work practices, go to **www.epa.gov/lead** or you may also contact the National Lead Information Center at **1-800-424-LEAD (5323)**. The Center is the federal government's leading source of quality information on lead poisoning prevention and lead hazards.

Take a Course.
Get trained and certified in lead safety. Go to **http://cfpub.epa.gov/flpp/searchrrp_training.htm** to find a training provider in your area accredited by EPA.

Find Out About Local Rules and Resources.
To check whether a state is authorized to administer its own program in lieu of the EPA Renovation, Repair and Painting Program, and for information on EPA authorized state programs, visit **www.epa.gov/lead/pubs/lscp-renovation_firm.htm**. In addition, the National Lead Information Center can provide information on how to contact your state, local and/or tribal programs to get general information about lead poisoning prevention.

- Local health departments can provide information about local programs, including assistance for poisoned children.
- State and tribal lead poisoning prevention or environmental protection programs can provide information about the lead regulations that apply in your community and can tell you about possible sources of financial aid for reducing lead hazards. They also may be able to tell you about the costs and availability of individuals certified to test lead paint and/or lead dust.
- Building code officials can tell you the regulations that apply to the renovation and remodeling work that you are planning.

Access Additional Resource Materials.
EPA's website provides the following general reference and how-to guidance materials:

- The Lead-Safe Certified Guide to Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools (EPA-740-K-10-001, Revised September 2011). **www.epa.gov/lead/pubs/renovaterightbrochure.pdf**
- Small Entity Compliance Guide to Renovate Right: A Handbook for Contractors, Property Managers and Maintenance Personnel Working in Homes, Child Care Facilities and Schools Built Before 1978. (EPA-740-K-10-003, Revised September 2011). **www.epa.gov/lead/pubs/sbcomplianceguide.pdf**
- Protect Your Family from Lead in Your Home (EPA 747-K-99-001, Revised June 2003). This is a general information pamphlet on lead-based paint, lead hazards, the effects of lead poisoning and steps you can take to protect your family. **www.epa.gov/lead/pubs/leadpdfe.pdf**
- For a copy of these materials you may also contact the National Lead Information Center at **www.epa.gov/lead/nlic.htm** or call **1-800-424-LEAD (5323)**.

Other Resources

For other resources on lead, visit the following Web sites:

www.epa.gov/lead/ — EPA is playing a major role in addressing residential lead hazards, including those associated with lead-based paint, lead contaminated dust and lead contaminated residential soil. This Web site provides information about lead and lead hazards and provides some simple steps to protect your family. It contains links to basic information, as well as more detailed information and documents on lead in the news, rules and regulations, education and outreach materials, training, and other lead links.

www.hud.gov/offices/lead/ — The Department of Housing and Urban Development (HUD) provides funds to state and local governments to develop cost-effective ways to reduce lead-based paint hazards in America's privately-owned low-income housing. In addition, the office enforces HUD lead regulations, provides public outreach and technical assistance, and conducts technical studies to help protect children and their families from health and safety hazards in the home. The site will direct you to resources on lead paint regulations, training, guidance/technical guidelines and compliance and enforcement.

www.osha.gov/SLTC/lead/index.html — The mission of the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) is to assure the safety and health of America's workers by: setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvements in workplace safety and health. OSHA has established the reduction of lead exposure as a high strategic priority. This site contains links to lead recognition, evaluation, compliance, and training resources.

www.cdc.gov/lead — The U.S. Department of Health and Human Services Centers for Disease Control and Prevention (CDC) are committed to achieving improvements in people's health. This site provides CDC's compiled information on lead and includes materials and links for parents, health professionals, researchers, students and others interested in the topic of lead. The key resources include fact sheets, guidelines and recommendations and questions and answers.

Pre-Renovation Education Requirements

The pre-renovation education requirements of the Renovation, Repair and Painting Rule ensure that owners and occupants of pre-1978 homes and child-occupied facilities are provided information about potential hazards of lead-based paint exposure before renovations are begun.

Who is affected? The requirements apply to any person paid to do work that disturbs paint in residential housing or child-occupied facilities built before 1978. This includes residential rental property owners and managers, general contractors and special trade contractors such as painters, plumbers, carpenters and electricians.

What properties are affected? All residential properties and child-occupied facilities built before 1978 are affected unless they meet one of the exceptions listed below.

Are there any exceptions? The requirements do not apply to housing designated for elderly or disabled persons (unless children under age 6 live there), zero-bedroom dwellings (studio apartments, dormitories, etc.), housing determined to be free of lead-based paint by a lead-based paint inspection, emergency renovations and repairs, and minor repairs that disturb 6 square feet or less of paint on interior surfaces or 20 square feet or less of paint on exterior surfaces. The minor repair exemption does not apply to projects involving demolition, window replacement, or involve the use of any of the practices prohibited by the Renovation, Repair and Painting rule.

What are the requirements? The Renovation, Repair and Painting Rule requires the distribution of the lead pamphlet The Lead-Safe Certified Guide to Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools before the work starts.

- In housing built before 1978, you must:
  - Distribute EPA's lead pamphlet to the owner and occupants before renovation starts.
- In a child-occupied facility, you must:
  - Distribute the lead pamphlet to the owner of the building and an adult representative of the child-occupied facility before the renovation starts.
  - Either distribute renovation notices to parents/guardians of the children attending the child-occupied facility, or post informational signs about the renovation or repair job.

- For work in common areas of multi-family housing, you must:
  - Either distribute renovation notices to tenants or you must post informational signs about the renovation or repair job.
- Obtain confirmation of receipt of the lead pamphlet from the owner or a certificate of mailing from the post office.
- Obtain confirmation of receipt of the lead pamphlet from the housing occupants or the adult representative of the child-occupied facility or a certificate of mailing from the post office. For these persons, you may also certify in writing that you delivered the lead pamphlet but were unable to obtain written confirmation.
- Retain records for three years.

How do I get the pamphlet? You can download the pamphlet from EPA's website at **www.epa.gov/lead/pubs/brochure.htm.** Single copies of the pamphlet are available from the **National Lead Information Center** at **1-800-424-LEAD (5323).** Ask for the *Lead-Safe Certified Guide to Renovate Right: Important Lead Hazard Information for Families, Child Care Providers, and Schools* pamphlet. For multiple copies you may do the following:

1. Call the Government Printing Office (GPO) Order Desk at (202) 512-1800.

2. Order from the GPO Bookstore at **http://bookstore.gpo.gov/environment**.

3. Request copies in writing from:
U.S. GPO
P.O. Box 979050
St. Louis, MO 63197-9000

Note: In federally-assisted housing, HUD requires notification to be distributed to occupants within 15 days after lead-based paint or lead-based paint hazards are identified in their unit (or common areas, if applicable), and within 15 days after completion of hazard control work in their unit or common areas.

Prevent Lead Exposure During Renovation, Repair, and Painting

Understand that Renovation, Repair and Painting Jobs Can Create Hazards. People, especially children, may swallow the lead dust or paint chips created during the job and get poisoned. Lead poisoning has serious health effects.

Read EPA and HUD's Lead Hazard Information Pamphlet *The Lead-Safe Certified Guide to Renovate Right Important Information for Families, Child Care Providers and Schools.* Contractors are required by law to give clients in pre-1978 homes and child-occupied facilities a copy of this pamphlet. The pamphlet explains the hazards associated with lead-based paint. You can get copies of the pamphlet by calling **1-800-424-LEAD (5323)** or you can download it at **www.epa.gov/lead/pubs/renovaterightbrochure.pdf**.

Use Lead-Safe Work Practices. Follow practices that will protect you and residents from exposure to lead. These practices may take a small amount of additional time and money, but they are necessary to protect children, residents, workers and workers' families from exposure to lead dust.

Conduct Lead Testing Before and/or After the Work is Performed. Pre-job testing can identify any lead paint in the home and allow workers to target lead safe work practices to the areas where there is lead paint. Using the cleaning verification procedure or clearance testing at the end of the job ensures that no dust has been left behind.

Learn More About Lead. To learn more about working safely with lead, visit EPA's Web site at **www.epa.gov/lead** or HUD's Web site at **www.hud.gov/offices/lead**. You may also contact the National Lead Information Center at **1-800-424-LEAD (5323)**

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