

**Lead Dust Removal and Control:
A Step-by-Step Guide**

**Prepared By:
The Maine Childhood Lead
Poisoning Prevention Program
&
The Maine State Housing Authority:
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**Based on:
U.S. Department of Housing and Urban Development
Guidelines for the Evaluation and Control of Lead-Based Paint
Hazards in Housing. 1997 Revision**

Definitions

- Accessible Surface:** Means an interior or exterior surface painted with lead-based paint that is accessible for a young child to reach or chew.
- Building Component:** Means any part of a building that may be painted or have dust on its surface such as: walls, stairs treads, floors, window sills etc.
- Chewable Surface:** Means any painted surface that shows evidence of having been chewed or mouthed by a young child. A chewed surface is usually a protruding, horizontal part of a building, such as a window sill.
- Cleaning:** Means the process of using a HEPA vacuum and wet cleaning agents to remove leaded dust.
- Common Area:** Means a room or area that is accessible to all residents in a community such as: hallways or lobbies.
- Dust Removal:** Means a form of interim control that involves initial cleaning followed by periodic checking and recleaning, as needed.
- Dust Trap:** Means a surface, component, or furnishing where dust can accumulate.
- Friction Surface:** Means any interior or exterior surface, such as a window or stair tread, subject to abrasion or friction.
- HETL:** Means the Maine Health and Environmental Testing Laboratory.
- Impact Surface:** Means an interior or exterior surface subject to repeated impact or contact (such as surfaces on doors and stairs).
- Interim Controls:** Means a set of measures designed to temporarily reduce human exposure or possible exposure to lead-based paint hazards.
- Lead Contaminated Dust:** Means surface dust in a home that contains leaded dust in excess of levels determined by the DEP.
- Lead Contaminated Soil:** Means bare soil that contains lead at or in excess of the levels determined to be hazardous to human health.
- “Poor” Paint:** Means any interior or exterior paint that is peeling, chipping, chalking, or cracking paint located on a surface or fixture.

Leaded Dust Removal and Control

A. Introduction

More children become lead poisoned from leaded dust than any other form of exposure. Removing leaded dust can protect children, but because leaded dust is so small, it cannot be seen by the naked eye so special cleaning methods are needed to make sure you get rid of all the harmful dust.

Leaded dust removal is a short-term safety method that involves an initial cleaning followed by recleaning as needed. The following paragraphs tell you how to remove leaded dust. Leaded dust removal can be used alone, or as part of cleanup after any painting, renovation, or remodeling work

1. Where Leaded Dust is Found & Where it Comes From

Lead in house dust is a major source of lead exposure in young children. Lead dust usually comes from:

- ✓ chipping, peeling or worn lead-based paint on inside and outside surfaces.
- ✓ rubbing of painted surfaces like windows and doors.
- ✓ renovation, remodeling or repainting activities.
- ✓ certain activities or hobbies
- ✓ on the clothing of workers exposed to lead



Lead dust can also come from outside soil or dust. This dust can be tracked inside by humans or animals or carried indoors by wind. Sources of lead polluted soil includes:

- ✓ scraping or aging of outside lead-based paint.
- ✓ past use of additives in gasoline
- ✓ industrial sources
- ✓ demolition
- ✓ paint removal from buildings and steel structures.

For a list of potential sources of lead in house dust (see **table 1**).

Certain cracks or spaces in a home can contain leaded dust, like window troughs, worn floors, carpets, and upholstered furnishings (see **table 2**).

Leaded dust in carpets and rugs, window coverings (drapes and curtains), mats, and upholstered furnishings are a hazard whether those items are supplied by a building owner or by the residents. Owners of apartment units are responsible for cleaning such items or removing and replacing them only if they belong to the building owner. **Carpets and upholstered furnishings may be difficult to clean.**

Source	Processes That Contribute to Lead in Dust	Locations
Interior Lead Paint	Deteriorated paint	All locations
	Friction/Abrasion	Windows, doors, stairs and floors
	Water damage	Walls, trim, ceilings
	Remodeling, renovations	All surfaces with lead paint
Exterior Lead Paint	Tracking by people, pets, or wind	All exterior if lead
	Demolition	Exposed soil, sand boxes, window troughs
Soil and Exterior Dust	Tracking by humans or pets Chipping exterior paint Contamination from gasoline	Exposed soil
Point Sources	Releases from lead-related industries	Near point source
Hobby Activities	Cutting, molding, and melting for bullets, fishing sinkers, toys or stained glass	Rooms where the hobby occurred.
Occupational Sources	Transporting of dust on clothes, tools, hair, and vehicles	Vehicles, laundry, room, furniture

Table 2 Major Dust Reservoirs and Potential Dust Traps

Interior

Window Sills



Grates and Registers



Cracks and
Crevices in
Walls, Floors,
Steps



Carpets, Rugs and Mats
HVAC Systems
Window Covering

Exterior

Upholstered
Furnishings

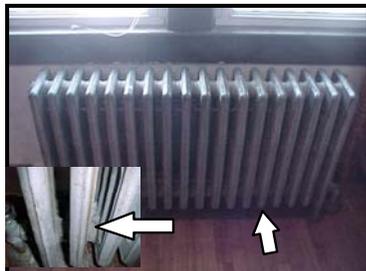


Porch Systems
Sandboxes
Steps

Exposed
Soil
Adjacent to
foundation



Radiators



Window
Troughs



2. How to Plan and Prepare for Leaded Dust Removal

Once it has been decided that leaded dust removal is needed, you should decide if the apartment unit(s) will be occupied or vacant while the dust removal is occurring. Lead abatement contractors, lead smart renovators, landlords, maintenance staff, tenants or homeowners may perform dust removal work. People performing the work should be properly equipped and trained in dust removal.

If apartment unit(s) are occupied, the owner should work with residents to guarantee that the roles of all involved are clear. The job should be organized so that dust removal is performed in 1 day to minimize inconvenience to residents. Owners should provide residents with educational materials prepared by public agencies that tell how residents can help in removing leaded dust.

Tenants or homeowners should do the following tasks before dust removal occurs:

- ✓ wash all cleanable toys with an all-purpose cleaner.
- ✓ store all loose personal belongings in boxes, closets, or drawers to provide easy access to floors and other surfaces during dust removal.
- ✓ remove drapes and curtains and collect any washable area rugs for cleaning. Clean or arrange for cleaning these items and store them in sealed plastic bags.
- ✓ wash blankets known to have been unprotected during renovations or remodeling activities that disturbed lead-based paint.
- ✓ wash or dust upholstered furniture using disposable cloths and spray polish.
- ✓ change filters in HVAC (heating, ventilation, air conditioning) units, except where routinely changed by the property owner.

Building owners should do the following tasks during dust removal:

- ✓ attempt to schedule dust removal when the apartment unit(s) are vacant.
- ✓ if the unit is occupied, notify residents of the date and time dust removal will occur.
- ✓ provide and install cleanable “walk off” mats on interior entryways.
- ✓ ensure that contractors comply with contract specifications.
- ✓ ensure that all supplied furnishings are cleaned.

3. Removing Leaded Dust From an Apartment or Home

All visible and invisible particles need to be removed. Lead dust is hard to remove with an ordinary household vacuum cleaner, particularly in poorly maintained housing with rough and aging surfaces. An ordinary household vacuum will send lead dust through the work area because holes in between the filter are not small enough to filter the dust out. A HEPA (High Efficiency Particulate Air) vacuum is equipped with a special filter that removes lead dust particles from the vacuums exhaust air stream that would otherwise be sent throughout the

apartment/home. **A HEPA vacuum can be rented, bought, or borrowed. It is not a must have tool for dust removal.** The cities of Lewiston and Auburn have HEPA vacuums that can be rented to property owners, contractors, or tenants for lead dust removal. A filter replacement cost is required. For HEPA vacuum rental information please see page 10.

Wet cleaning is **necessary** for lead dust removal. Wet cleaning is conducted with an all-purpose cleaner such as 409. Even with special equipment and procedures, lead dust can be difficult to remove from dust traps such as: carpets, and rough surfaces.



Step 1: HEPA Vacuum

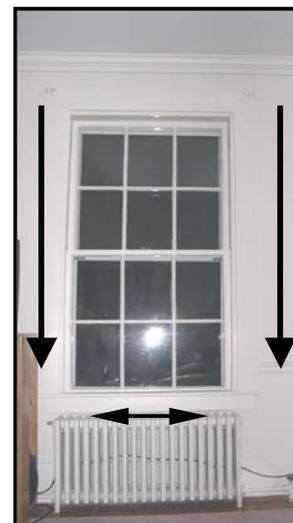


Step 2: Wet clean surface

4. General Cleaning Work Practices

When cleaning a home or apartment, always clean from the ceiling or wall to the floors and vacuum before wet cleaning. Within a room, start with the highest-level surface and work down. This method of wet cleaning involves the following cleaning sequence:

1. ceilings (only if lead paint has been disturbed)
2. walls
3. tops of window heads
4. tops of window sashes
5. window mullions
6. Interior and exterior window sills
7. window troughs
8. radiators
9. baseboards
10. floors
11. vents/registers (HVAC)



Always work from cleaned areas to non-cleaned areas to prevent the spread of lead dust. While performing lead dust removal, it is necessary to use disposable cleaning cloths or sponges. **Use a new disposable cloth or sponge after cleaning every one of the surfaces listed above.**

How to Clean a Non Floor Surface

- ✓ clean household surfaces other than floors by mixing the cleaning solution in a plastic jug
- ✓ pour or spray it onto the surface being cleaned, or onto sponges or cloths. Pouring or spraying the cleaning solution prevents the cleaning solution from becoming leaded.
- ✓ remember to frequently rinse the sponge/cloth in a bucket of clean water or throw away any disposable cloths/rags.

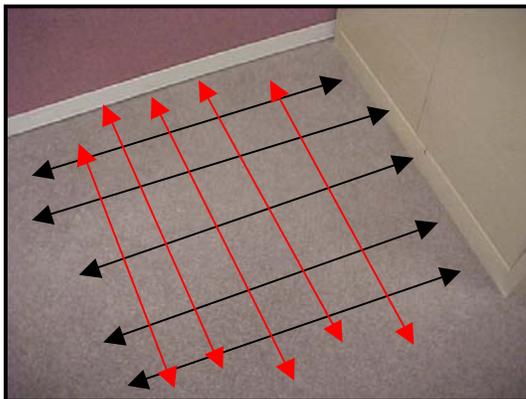


How to Clean Floors

- ✓ for floors a two-bucket system is **strongly** recommended, but can be performed with one-bucket.
- ✓ mix the cleaning solution (1Tbs per gallon of water) in one bucket; a second bucket should contain rinse water for the mophead. **Change the rinse water at least once per room.**
- ✓ after cleaning a window or floor, rinse with clean water using a new sponge or cloth.
- ✓ where possible, clean floors underneath rugs and carpets.



How to Clean Carpets or Rugs

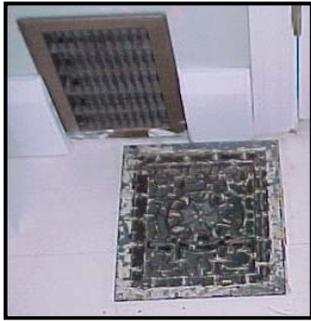


- ✓ vacuum the top side with a HEPA vacuum equipped with a beater bar or agitator attachment at a rate no faster than 4 minutes for every 10 square feet.
- ✓ vacuum two times going in opposite directions. For example, the first time may be done in an east-west direction, while the second is done in a north-south direction.

How to Clean Upholstered Furniture

- ✓ the recommended procedure for furniture is HEPA vacuuming without steam cleaning or other wet cleaning procedures that could damage the fabric.
- ✓ upholstery surfaces should be HEPA vacuumed with three to five passes over each surface at a total rate of 2 minutes per 10 square feet.

How to Clean Vents /Registers



- ✓ all air vent registers that cannot be removed should be cleaned in place.
- ✓ vacuum using a HEPA vacuum (if possible).
- ✓ then, wash using a cleaning solution.
- ✓ rinse with clean water and new rags/cloths.

Equipment Needed for Cleaning

The following equipment is needed to conduct basic lead dust cleaning:

1. all-purpose cleaner (e.g. Ajax, 409)
2. rags (not shown)
3. sponges
4. baby wipes
5. mops
6. bucket(s) with ringer
7. plastic Spray bottle
8. disposable latex or vinyl gloves
9. paint brushes (2" singles)
10. clear tape (2")
11. masking tape (1")

Optional:

12. can of paint
13. HEPA filtered vacuum



A high-efficiency particulate air (HEPA) vacuum (13 in photo) is strongly recommended, but wet wiping will suffice if a HEPA vacuum is not available.

Lead Dust Removal: A Step-By-Step Guide

1. Clean all horizontal surfaces beginning at the top rear room in the apartment/home, working forward and down washing with an all purpose cleaner such as: Ajax or 409.
2. Within rooms, start with the highest surface and work down. Clean windows, other dust traps, and finally the floors. When practical, clean dirty areas last within rooms to avoid spreading dust.
3. During wet wiping, replace rags, sponges, and mops frequently.
4. Use a two-bucket system for floors: one for the cleaning solution and the other for rinsing. Change the water at least once per room (one bucket will suffice).
5. Clean until no surface dust is visible. After cleaning rinse with clean water using a new sponge or clothe.
6. To reach a higher level of cleanliness, steam clean the carpet using a regular commercial after HEPA vacuuming.
7. Clean other unupholstered furnishings, HEPA vacuum or wet wipe each surface three to five times. Do not steam clean as it may damage the fabric.
8. Clean drop ceilings or ductwork by removing or cleaning in place using a wet wiping method.
9. Consider taking lead dust wipes to confirm the successful removal of any leaded dust.

For More Information Please Contact:

- For questions about lead safety in your home, medical treatment and screening call the Maine Childhood Lead Poisoning Prevention Program at (207) 287-4311 / TTY (207) 287-8015 or toll free at 1-800-698-3624
<http://www.maine.gov/dhhs/eohp/lead/>
- For questions about money to pay for inspections, abatement, free home testing kits, or educational materials call the Maine State Housing Authority at 1-800-452-4668.
<http://www.mainehousing.org/>
- For questions about working safely around lead at your home or at your job, training requirements, or licensed lead professionals call the Maine Department of Environmental Protection at 1-800-452-1924.
<http://www.maine.gov/dep/rwm/lead/index.htm>
- You may also contact one of the local Community Action Programs in your area to find out more regarding the Lead Hazard Control Grant.
- To request a lead dust sample kits or lead water kit call the Health and Environmental Testing Laboratory at (207) 287-2727
- For questions on fair housing law or rental assistance, call the U.S. Department of Housing and Urban Development at (202) 755-1785.
<http://www.hud.gov>
- For information on lead disclosure laws on real estate transactions and renovations in pre- 1978 homes, call the U.S. Environmental Protection Agency Region 1 at 1-888-372-7341.
<http://www.epa.gov/lead>
- For questions on consumer product safety information, call the Consumer Product Safety Commission at (212) 620-4120.
<http://www.cpsc.gov>
- For HEPA vacuum rental information, please call the City of Lewiston at (207) 784-2951 or the City of Auburn at (207) 786-2634.

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