

22 August 2025

LEAD BASED PAINT
INSPECTION REPORT

Multi-Family Property
90-25A Elmhurst Avenue, Second Floor Unit
Jackson Heights, NY 11372
UNYSE Project: 25-0816MCA



PREPARED FOR:

Luis Betances
956 Royal Birkdale Drive
Tarpon Springs, FL 34688

PREPARED BY:

UNYSE
346 AUSTIN STREET, BUFFALO, NY 14207

UNYSE ENVIRONMENTAL
CONSULTANTS *unyse.net*

22 August 2025

Luis Betances
956 Royal Birkdale Drive
Tarpon Springs, FL 34688
UNYSE Project: 25-0816MCA

**Re: Lead Based Paint Inspection
Multi-Family Property
90-25A Elmhurst Avenue, Second Floor Unit
Jackson Heights, NY 11372
UNYSE Project: 25-0816MCA**

Dear Mr. Betances;

I am pleased to present the enclosed report of the lead-based paint (LBP) inspection at the address referenced above.

Part 1 includes a summary of our services. **Part 2** details identifying information on services conducted. **Part 3** details lead based paint identified. **Part 4** includes results for all surfaces tested. **Part 5** is a sketch of the property and **Part 6** includes supporting information on firm and personnel qualifications.

Please do not hesitate to contact me if you have questions.

Sincerely,



Andrew J. McLellan
President
EO/AJM
file, 25-0816MCA

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PART 1: PROJECT SUMMARY

Multi-Family Property
90-25A Elmhurst Avenue, Second Floor Unit
Jackson Heights, NY 11372
UNYSE Project: 25-0816MCA

UNYSE conducted on-site lead-based paint (LBP) inspection activities on 8/16/25.

A lead-based paint (LBP) inspection determines the presence or absence of LPB. This inspection was completed using X-Ray fluorescence (XRF) technology, which tests for the presence of LBP on surface coatings without disturbing the substrate. The instrument is capable of detecting LBP through many layers of paint; however, it will not detect LBP through multiple substrates.

The inspector entered and inspected all accessible room equivalents in the building as well as around the exterior of the structure. Readings were taken from all testing combinations in those areas.

A review of the results of paint testing indicates that LBP was found on multiple interior components. A review of the paint condition evaluation results indicates that the paint on these components is in intact condition. Please refer to **Part 3** for details.

Our services were performed consistent with regulatory requirements set forth by the Environmental Protection Agency (EPA) and consistent with the Department of Housing and Urban Development (HUD) "Guidelines for the Evaluation & Control of Lead-Based Paint Hazards in Housing" (2012). Our services are designed to satisfy Local Law 31 of 2020 requirements enforced by NYC HPD.

Federal subsidized housing requirements require that the administering agency must notify occupants about the results of the lead hazard evaluation 15 days after the results have been determined. The notification must include information on the presence and location of identified lead paint, as well as a description of how occupants can get further information, assessment, and/or paint testing reports. A completed notification form has been included in the back of this report.

Federal law also requires that the results of LBP inspections and risk assessments be disclosed to prospective renters (lessees, tenants) entering into a new lease, renters renewing an old lease, and to prospective purchasers prior to obligation under a sales contract if LBP is found. If the inspection described finds that LBP is not present in units which are to be leased, the dwelling unit and, for multifamily housing, all other dwelling units characterized by the inspection are exempt from disclosure requirements.

However, for dwelling units which are being sold (not leased), the owner still has certain legal responsibilities to fulfill under Federal law even if no LBP is identified. See the HUD and EPA regulations in 24CFR Part 35 or 40 CFR Part 745, respectively, for additional details. You may contact the National Lead Information Center Clearinghouse (1-800-424-LEAD) to obtain HUD and EPA brochures, question-and-answer booklets, the

regulations mentioned above (including the descriptive preamble to those regulations), and other information on LBP disclosure.

Our EPA certified site representative was Max Chavez.

PART 2: IDENTIFYING INFORMATION

1. Staff Information:

Technician: Max Chavez
License Number LBP-R-I240811-1
Issuing State New York

2. Site Information:

Multi-Family Property
90-25A Elmhurst Avenue, Second Floor Unit
Jackson Heights, NY 11372

3. Building Construction Date:

1955

4. Owner Information:

Luis Betances
956 Royal Birkdale Drive
Tarpon Springs, FL 34688

5. Date of Report:

8/22/25

6. Date of Testing:

8/16/25

PART 3: SUMMARY OF LEAD BASED PAINT TESTING

Inspection Date: 08/16/2025
 Report Date: 08/22/2025
 LBP Level: 0.5mg/cm²
 Report No. 25-0816MCA
 Total Readings: 17

Multi-Family Property
 90-25A Elmhurst Avenue, Second Floor
 Jackson Heights, NY 11372

Lead-based paint (LBP) is present when lead concentrations meet or exceed 0.5 mg/cm². Deteriorated LBP is considered a LBP hazard. No LBP hazards were identified. **Table 1** details locations where LBP was detected.

Table 1 – LBP Locations

Location: Foyer							
Reading #	Concentration	Units	Structure	Component	Substrate	Wall	Condition
22	0.5	mg/cm ²	Room	Wall	Drywall	C	Intact
24	0.9	mg/cm ²	Room	Baseboard	Wood	C	Intact
26	0.5	mg/cm ²	Door	Frame	Metal	A	Intact
28	0.5	mg/cm ²	Closet	Frame	Metal	A	Intact

Location: Bedroom 1							
Reading #	Concentration	Units	Structure	Component	Substrate	Wall	Condition
36	0.5	mg/cm ²	Room	Wall	Drywall	A	Intact
37	0.6	mg/cm ²	Room	Wall	Drywall	B	Intact
38	0.5	mg/cm ²	Room	Wall	Drywall	C	Intact
44	0.5	mg/cm ²	Window	Sill	Wood	C	Intact

Location: Bedroom 2							
Reading #	Concentration	Units	Structure	Component	Substrate	Wall	Condition
46	1.4	mg/cm ²	Room	Wall	Drywall	A	Intact
47	1.2	mg/cm ²	Room	Wall	Drywall	B	Intact
48	1.9	mg/cm ²	Room	Wall	Drywall	C	Intact
49	0.9	mg/cm ²	Room	Wall	Drywall	D	Intact
52	1.5	mg/cm ²	Door	Frame	Metal	A	Intact
53	1.3	mg/cm ²	Window	Sill	Wood	C	Intact
54	1.4	mg/cm ²	Radiator	Cover	Metal	C	Intact
55	1.1	mg/cm ²	Closet	Door	Wood	A	Intact
56	1.6	mg/cm ²	Closet	Frame	Metal	A	Intact

KEY

Location	Number indicates room number on Floor Plan (appendix D)
Reading No.	Unique number given to each test recorded by the XRF.
Concentration/Units	Amount of lead in paint measured in milligrams per centimeter squared (mg/cm ²).
Result	“Positive” (0.5 mg/cm ² or greater of lead in paint) or “Negative” (less than 0.5 mg/cm ² of lead paint)
Room Equivalent	An identifiable part/location of a residence or structure (i.e. room, hallway, exterior area)
Member:	Component of the structure tested (i.e. “sash” when testing windows).
Structure (#)	Parts or elements tested (i.e. “window”) and its location left to right on the given wall
Component	Part of the tested structure (i.e. “casing”)
Substrate	Substance or layer that underlies the testing surface (i.e. plaster”)
Wall	Unique wall location utilizing HUD designation of A, B, C or D (Starting “A” at Street side and going in a counter direction
Condition	“Intact” or “Deteriorated” paint condition based on HUD protocol

NOTE

BOLDED READINGS ARE LEAD PAINT HAZARDS PER PART 3.1

PART 4: XRF TESTING RESULTS

Lead based paint (LBP) is present when lead concentrations meet or exceed 0.5 mg/cm². The following lists detail results for all surfaces tested, including the LBP identified in **Part 3**.

XRF calibration checks are conducted prior to after testing to evaluate the accuracy of the instrument. Negative values in the testing results can be attributed to instrument adjustment to varying substrate density.

UNYSE Project: 25-0816MCA

Client Name: Luis Betances;
Address: 956 Royal Birkdale Drive
Tarpon Springs, FL 34688

Test Site Name: Multi-Family Property
Address: 90-25A Elmhurst Avenue, Second Floor Unit
Jackson Heights, NY 11372

Inspection Date: 8/16/25

Instrument Type: Viken Detection
Model/Serial #: Pb200i/1205

UNYSE Technician: Max Chavez
License Number: LBP-R-I240811-1

XRF Calibration Check:

Scan No.	Reading	Scan No.	Reading
1	0.1	57	0
2	0.1	58	0
3	0.1	59	0.1
4	1	60	1.1
5	1	61	1
6	1	62	1

REPORT OF LEAD PAINT INSPECTION FOR: Luis Betances

Inspection Date: 08/16/2025
 Report Date: 08/22/2025
 Abatement Level: 0.5mg/cm²
 Report No. 25-0816MCA

Multi-Family Property
 90-25A Elmhurst Avenue, Second Floor
 Jackson Heights, NY 11372

Location: Living Room								
Reading #	Concentration	Units	Result	Structure	Component	Substrate	Wall	Condition
7	0.1	mg/cm ²	Negative	Room	Wall	Drywall	A	Intact
8	0.2	mg/cm ²	Negative	Room	Wall	Drywall	B	Intact
9	0.4	mg/cm ²	Negative	Room	Wall	Drywall	C	Intact
10	0	mg/cm ²	Negative	Room	Wall	Drywall	D	Intact
11	0.4	mg/cm ²	Negative	Room	Baseboard	Wood	D	Intact
12	0.4	mg/cm ²	Negative	Window	Sill	Wood	C	Intact
13	0.3	mg/cm ²	Negative	Radiator	Cover	Metal	C	Intact

Location: Kitchen								
Reading #	Concentration	Units	Result	Structure	Component	Substrate	Wall	Condition
14	0.1	mg/cm ²	Negative	Room	Wall	Drywall	A	Intact
15	0	mg/cm ²	Negative	Room	Wall	Drywall	B	Intact
16	0.2	mg/cm ²	Negative	Room	Wall	Drywall	C	Intact
17	0.1	mg/cm ²	Negative	Room	Wall	Drywall	D	Intact
18	0.1	mg/cm ²	Negative	Room	Baseboard	Wood	D	Intact
19	0.3	mg/cm ²	Negative	Window	Sill	Wood	B	Intact

Location: Foyer								
Reading #	Concentration	Units	Result	Structure	Component	Substrate	Wall	Condition
20	0.1	mg/cm ²	Negative	Room	Wall	Drywall	A	Intact
21	0.3	mg/cm ²	Negative	Room	Wall	Drywall	B	Intact
22	0.5	mg/cm ²	Positive	Room	Wall	Drywall	C	Intact
23	0	mg/cm ²	Negative	Room	Wall	Drywall	D	Intact
24	0.9	mg/cm ²	Positive	Room	Baseboard	Wood	C	Intact
25	0.1	mg/cm ²	Negative	Door		Metal	A	Intact
26	0.5	mg/cm ²	Positive	Door	Frame	Metal	A	Intact
27	0.2	mg/cm ²	Negative	Closet	Door	Wood	A	Intact
28	0.5	mg/cm ²	Positive	Closet	Frame	Metal	A	Intact

Location: Bathroom								
Reading #	Concentration	Units	Result	Structure	Component	Substrate	Wall	Condition
29	0.1	mg/cm ²	Negative	Room	Wall	Drywall	A	Intact
30	0	mg/cm ²	Negative	Room	Wall	Drywall	B	Intact
31	0	mg/cm ²	Negative	Room	Wall	Drywall	C	Intact
32	0.2	mg/cm ²	Negative	Room	Wall	Drywall	D	Intact
33	0.2	mg/cm ²	Negative	Door		Wood	A	Intact
34	0.2	mg/cm ²	Negative	Door	Frame	Metal	A	Intact
35	0.2	mg/cm ²	Negative	Radiator	Cover	Metal	D	Intact

Location: Bedroom 1								
Reading #	Concentration	Units	Result	Structure	Component	Substrate	Wall	Condition
36	0.5	mg/cm ²	Positive	Room	Wall	Drywall	A	Intact
37	0.6	mg/cm ²	Positive	Room	Wall	Drywall	B	Intact
38	0.5	mg/cm ²	Positive	Room	Wall	Drywall	C	Intact
39	0	mg/cm ²	Negative	Room	Baseboard	Wood	D	Intact
40	0.4	mg/cm ²	Negative	Door		Wood	A	Intact
41	0.4	mg/cm ²	Negative	Door	Frame	Metal	A	Intact
42	0.1	mg/cm ²	Negative	Closet	Door	Wood	A	Intact
43	0.4	mg/cm ²	Negative	Closet	Frame	Metal	A	Intact
44	0.5	mg/cm ²	Positive	Window	Sill	Wood	C	Intact

Location: Bedroom 2								
Reading #	Concentration	Units	Result	Structure	Component	Substrate	Wall	Condition
46	1.4	mg/cm ²	Positive	Room	Wall	Drywall	A	Intact
47	1.2	mg/cm ²	Positive	Room	Wall	Drywall	B	Intact
48	1.9	mg/cm ²	Positive	Room	Wall	Drywall	C	Intact
49	0.9	mg/cm ²	Positive	Room	Wall	Drywall	D	Intact
50	0.1	mg/cm ²	Negative	Room	Baseboard	Wood	D	Intact
51	0	mg/cm ²	Negative	Door		Wood	A	Intact
52	1.5	mg/cm ²	Positive	Door	Frame	Metal	A	Intact
53	1.3	mg/cm ²	Positive	Window	Sill	Wood	C	Intact
54	1.4	mg/cm ²	Positive	Radiator	Cover	Metal	C	Intact
55	1.1	mg/cm ²	Positive	Closet	Door	Wood	A	Intact
56	1.6	mg/cm ²	Positive	Closet	Frame	Metal	A	Intact


KEY

Location	Number indicates room number on Floor Plan (appendix D)
Reading No.	Unique number given to each test recorded by the XRF.
Concentration/Units	Amount of lead in paint measured in milligrams per centimeter squared (mg/cm ²).
Result	"Positive" (0.5 mg/cm ² or greater of lead in paint) or "Negative" (less than 0.5 mg/cm ² of lead paint)
Room Equivalent	An identifiable part/location of a residence or structure (i.e. room, hallway, exterior area)
Member:	Component of the structure tested (i.e. "sash" when testing windows).
Structure (#)	Parts or elements tested (i.e. "window") and its location left to right on the given wall
Component	Part of the tested structure (i.e. "casing")
Substrate	Substance or layer that underlies the testing surface (i.e. plaster")
Wall	Unique wall location utilizing HUD designation of A, B, C or D (Starting "A" at Street side and going in a counter direction
Condition	"Intact" or "Deteriorated" paint condition based on HUD protocol

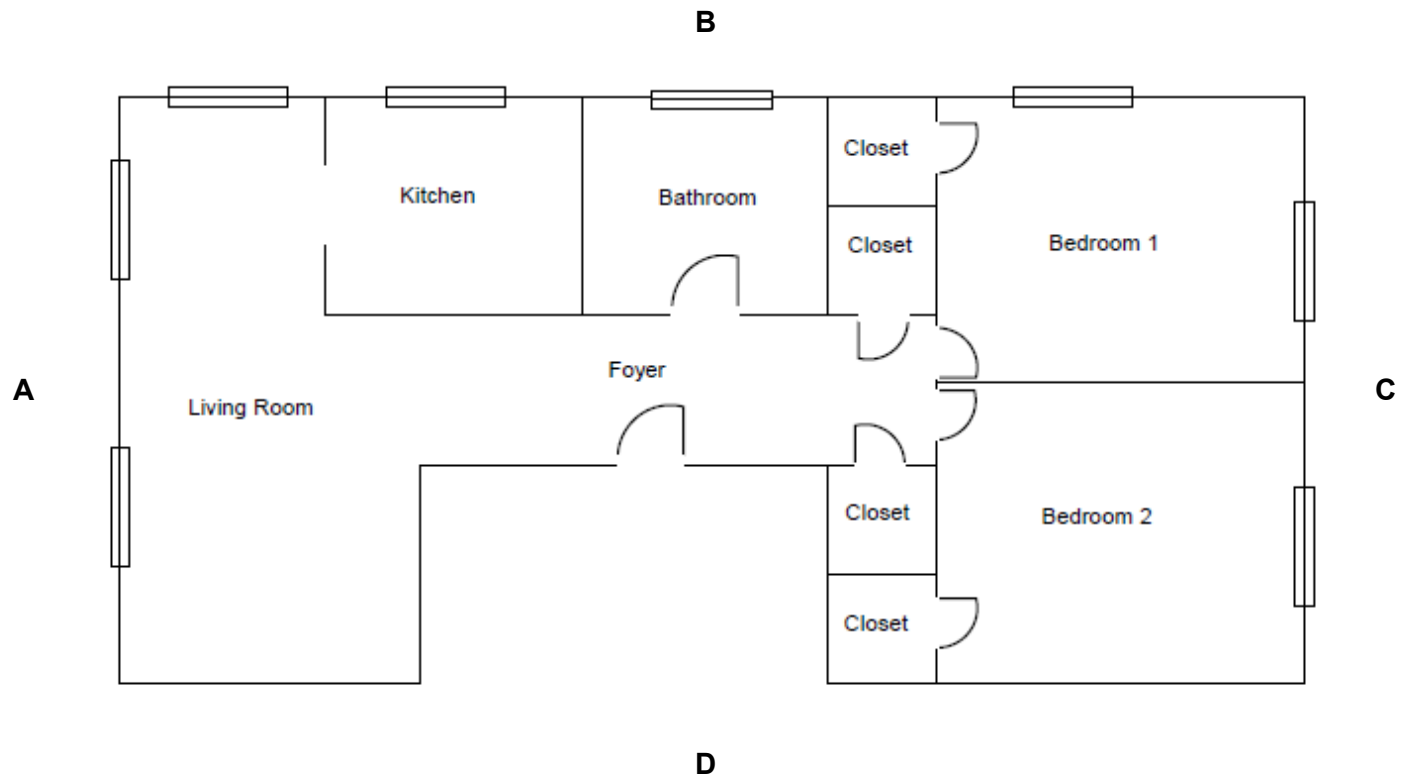
NOTE

BOLDED READINGS ARE LEAD PAINT HAZARDS PER PART 3.1

PART 5: SITE DRAWING

Drawn By	Max Chavez	Address	90-25A Elmhurst Avenue, Second Floor Unit Jackson Heights, NY 11372	 North
Date Drawn	8/16/25	Floor	Second Floor	

KEY	
(#)	XRF room number
A,B,C,D	Location reference (see XRF data)



PART 6: FIRM & STAFF QUALIFICATIONS

United States Environmental Protection Agency

This is to certify that



All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires November 29, 2027

LBP-672-3

Certification #

August 06, 2024

Issued On

Marc Edmonds, Chief

Risk Assessment Management Branch 2.



United States Environmental Protection Agency

This is to certify that



Max N Chavez

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:



All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires December 04, 2026

LBP-R-1240811-1

Certification #

November 20, 2023

Issued On

Ben Conetta, Chief

Chemicals and Multimedia Programs Branch



PART 7: XRF PERFORMANCE CHARACTERISTIC SHEET

HEURESIS PCS December 2015

Performance Characteristic Sheet

EFFECTIVE DATE: December 1, 2015

MANUFACTURER AND MODEL:

Make: *Heuresis*
Models: *Model Pb200i*
Source: *⁵⁷Co, 5 mCi (nominal – new source)*

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Action Level mode

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm ² (inclusive)

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

ACTION LEVEL MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm ²)
Results not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated using test results on building components in the HUD archive. Testing was conducted on 146 test samples in November 2015, with two separate instruments running software version 2.1-2 in Action Level test mode. The actual source strength of each instrument on the day of testing was approximately 2.0 mCi; source ages were approximately one year.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm² for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm² at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm². Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

For each substrate type (the 1.02 mg/cm² NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\text{Correction value} = (1\text{st} + 2\text{nd} + 3\text{rd} + 4\text{th} + 5\text{th} + 6\text{th Reading})/6 - 1.02 \text{ mg/cm}^2$$

Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below. Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and the retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF readings.

Compute the average of all ten re-test XRF readings.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

In the Action Level paint test mode, the instrument takes the longest time to complete readings close to the Federal standard of 1.0 mg/cm². The table below shows the mean and standard deviation of actual reading times by reading level for paint samples during the November 2015 archive testing. The tested instruments reported readings to one decimal place. No significant differences in reading times by substrate were observed. These times apply only to instruments with the same source strength as those tested (2.0 mCi). Instruments with stronger sources will have shorter reading times and those with weaker sources, longer reading times, than those in the table.

Mean and Standard Deviation of Reading Times in Action Level Mode by Reading Level		
Reading (mg/cm ²)	Mean Reading Time (seconds)	Standard Deviation (seconds)
< 0.7	3.48	0.47
0.7	7.29	1.92
0.8	13.95	1.78
0.9 – 1.2	15.25	0.66
1.3 – 1.4	6.08	2.50
≥ 1.5	3.32	0.05

CLASSIFICATION OF RESULTS:

XRF results are classified as **positive** if they are **greater than or equal** to the stated threshold for the instrument (1.0 mg/cm²), and *negative* if they are *less than* the threshold.

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. The report may be downloaded at <http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997>.

This XRF Performance Characteristic Sheet (PCS) was developed by QuanTech, Inc., under a contract with the XRF manufacturer.

APPENDIX – LEAD BASED PAINT TESTING AFFIDAVIT

AFFIDAVIT BY CERTIFIED INDIVIDUAL WHO PERFORMED LEAD-BASED PAINT TESTING

I, Max Chavez (print name), performed the inspection and testing and/or sampling for lead-based paint at the premises located at 90-25A Elmhurst Ave (street), Flushing (city), NY (state), 11372 (zip), 2nd Floor (unit number, if applicable) on 8/16/25 (date).

I am certified to perform such inspections and testing and/or sampling under Part 745 of Title 40 of the Code of Federal Regulations subparts L and Q. I performed the inspection, and testing and/or sampling in accordance Title 40 CFR § 745.227, and Chapter 7 of the U.S. Department of Housing and Urban Development's Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 2nd Edition (July 2012).

I have attached a copy of my EPA certification to this affidavit. My EPA certification number is LBP-R-I240811-1 and it expires on 12/04/2026.

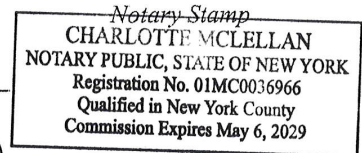
I have also attached to this affidavit a copy of the EPA certification of my firm (firm name): UNYSE.

Max Chavez
(Print Name)

Max Chavez
(Signature)

State of New York, County of New York

Sworn to before me this 20th day of August, 2025



Charlotte Mclellan
(Notary Print Name)

Charlotte Mclellan
(Notary Signature)

Sample Form Provided by the Department of Housing Preservation and Development (HPD) – Rev. July 12, 2021 (Owners may use this sample affidavit for lead-based paint testing and recordkeeping for turnover and Local Law 31 of 2020. This affidavit should not be used for the HPD Exemption Application. Owners who plan to submit testing for the Exemption Application should use the testing affidavit provided with that application.)

EPA PAMPHLET'S

“Protect Your Family From Lead in Your Home”



Protect Your Family From Lead in Your Home

EPA United States Environmental Protection Agency

 United States Consumer Product Safety Commission

 United States Department of Housing and Urban Development

December 2012

Are You Planning to Buy or Rent a Home Built Before 1978?

Did you know that many homes built before 1978 have lead-based paint? Lead from paint, chips, and dust can pose serious health hazards.

Read this entire brochure to learn:

- How lead gets into the body
- About health effects of lead
- What you can do to protect your family
- Where to go for more information

Before renting or buying a pre-1978 home or apartment, federal law requires:

- Sellers must disclose known information on lead-based paint or lead-based paint hazards before selling a house.
- Real estate sales contracts must include a specific warning statement about lead-based paint. Buyers have up to 10 days to check for lead.
- Landlords must disclose known information on lead-based paint and lead-based paint hazards before leases take effect. Leases must include a specific warning statement about lead-based paint.

If undertaking renovations, repairs, or painting (RRP) projects in your pre-1978 home or apartment:

- Read EPA's pamphlet, *The Lead-Safe Certified Guide to Renovate Right*, to learn about the lead-safe work practices that contractors are required to follow when working in your home (see page 12).



Simple Steps to Protect Your Family from Lead Hazards

If you think your home has lead-based paint:

- Don't try to remove lead-based paint yourself.
- Always keep painted surfaces in good condition to minimize deterioration.
- Get your home checked for lead hazards. Find a certified inspector or risk assessor at epa.gov/lead.
- Talk to your landlord about fixing surfaces with peeling or chipping paint.
- Regularly clean floors, window sills, and other surfaces.
- Take pre-cautions to avoid exposure to lead dust when remodeling.
- When renovating, repairing, or painting, hire only EPA- or state-approved Lead-Safe certified renovation firms.
- Before buying, renting, or renovating your home, have it checked for lead-based paint.
- Consult your health care provider about testing your children for lead. Your pediatrician can check for lead with a simple blood test.
- Wash children's hands, bottles, pacifiers, and toys often.
- Make sure children eat healthy, low-fat foods high in iron, calcium, and vitamin C.
- Remove shoes or wipe soil off shoes before entering your house.

1

Lead Gets into the Body in Many Ways

Adults and children can get lead into their bodies if they:

- Breathe in lead dust (especially during activities such as renovations, repairs, or painting that disturb painted surfaces).
- Swallow lead dust that has settled on food, food preparation surfaces, and other places.
- Eat paint chips or soil that contains lead.

Lead is especially dangerous to children under the age of 6.

- At this age, children's brains and nervous systems are more sensitive to the damaging effects of lead.
- Children's growing bodies absorb more lead.
- Babies and young children often put their hands and other objects in their mouths. These objects can have lead dust on them.



Women of childbearing age should know that lead is dangerous to a developing fetus.

- Women with a high lead level in their system before or during pregnancy risk exposing the fetus to lead through the placenta during fetal development.

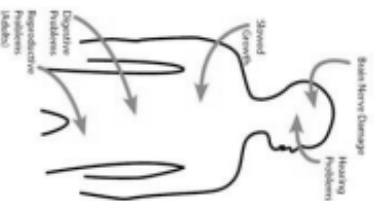
2

Health Effects of Lead

Lead affects the body in many ways. It is important to know that even exposure to low levels of lead can severely harm children.

In children, exposure to lead can cause:

- Nervous system and kidney damage
- Learning disabilities, attention deficit disorder, and decreased intelligence
- Speech, language, and behavior problems
- Poor muscle coordination
- Decreased muscle and bone growth
- Hearing damage



While low-lead exposure is most common, exposure to high amounts of lead can have devastating effects on children, including seizures, unconsciousness, and, in some cases, death.

Although children are especially susceptible to lead exposure, lead can be dangerous for adults, too.

In adults, exposure to lead can cause:

- Harm to a developing fetus
- Increased chance of high blood pressure during pregnancy
- Fertility problems (in men and women)
- High blood pressure
- Digestive problems
- Nerve disorders
- Memory and concentration problems
- Muscle and joint pain

3

Check Your Family for Lead

Get your children and home tested if you think your home has lead.

Children's blood lead levels tend to increase rapidly from 6 to 12 months of age, and tend to peak at 18 to 24 months of age.

Consult your doctor for advice on testing your children. A simple blood test can detect lead. Blood lead tests are usually recommended for:

- Children at ages 1 and 2
- Children or other family members who have been exposed to high levels of lead
- Children who should be tested under your state or local health screening plan

Your doctor can explain what the test results mean and if more testing will be needed.

4

Where Lead-Based Paint Is Found

In general, the older your home or childcare facility, the more likely it has lead-based paint.¹

Many homes, including private, federally-assisted, federally-owned housing, and childcare facilities built before 1978 have lead-based paint. In 1978, the federal government banned consumer uses of lead-containing paint.²

Learn how to determine if paint is lead-based paint on page 7.

Lead can be found:

- In homes and childcare facilities in the city, country, or suburbs,
- In private and public single-family homes and apartments,
- On surfaces inside and outside of the house, and
- In soil around a home. (Soil can pick up lead from exterior paint or other sources, such as past use of leaded gas in cars.)

Learn more about where lead is found at epa.gov/lead.

¹ "Lead-based paint" is currently defined by the federal government as paint with lead level is greater than or equal to 1.0 milligram per square centimeter (mg/cm), or more than 0.5% by weight.

² "Lead-containing paint" is currently defined by the federal government as lead in new dried paint in excess of 90 parts per million (ppm) by weight.

5

Identifying Lead-Based Paint and Lead-Based Paint Hazards

Deteriorating lead-based paint (peeling, chipping, chalking, cracking, or damaged paint) is a hazard and needs immediate attention. Lead-based paint may also be a hazard when found on surfaces that children can chew or that get a lot of wear and tear, such as:

- On windows and window sills
- Doors and door frames
- Stairs, railings, banisters, and porches

Lead-based paint is usually not a hazard if it is in good condition and if it is not on an impact or friction surface like a window.

Lead dust can form when lead-based paint is scraped, sanded, or heated. Lead dust also forms when painted surfaces containing lead bump or rub together. Lead paint chips and dust can get on surfaces and objects that people touch. Settled lead dust can reenter the air when the home is vacuumed or swept, or when people walk through it. EPA currently defines the following levels of lead in dust as hazardous:

- 40 micrograms per square foot (µg/ft²) and higher for floors, including carpeted floors
- 250 µg/ft² and higher for interior window sills

Lead in soil can be a hazard when children play in bare soil or when people bring soil into the house on their shoes. EPA currently defines the following levels of lead in soil as hazardous:

- 400 parts per million (ppm) and higher in play areas of bare soil
- 1,200 ppm (average) and higher in bare soil in the remainder of the yard

Remember, lead from paint chips—which you can see—and lead dust—which you may not be able to see—both can be hazards.

The only way to find out if paint, dust, or soil lead hazards exist is to test for them. The next page describes how to do this.

6

Checking Your Home for Lead

You can get your home tested for lead in several different ways:

- A lead-based paint **inspection** tells you if your home has lead-based paint and where it is located. It won't tell you whether your home currently has lead hazards. A trained and certified testing professional, called a lead-based paint inspector, will conduct a paint inspection using methods, such as:

- Portable x-ray fluorescence (XRF) machine
- Lab tests of paint samples

- A **risk assessment** tells you if your home currently has any lead hazards from lead in paint, dust, or soil. It also tells you what actions to take to address any hazards. A trained and certified testing professional, called a risk assessor, will:

- Sample paint that is deteriorated on doors, windows, floors, stairs, and walls
- Sample dust near painted surfaces and sample bare soil in the yard
- Get lab tests of paint, dust, and soil samples

- A combination inspection and risk assessment tells you if your home has any lead-based paint and if your home has any lead hazards, and where both are located.

Be sure to read the report provided to you after your inspection or risk assessment is completed, and ask questions about anything you do not understand.



Checking Your Home for Lead, continued

In preparing for renovation, repair, or painting work in a pre-1978 home, Lead-Safe Certified renovators (see page 12) may:

- Take paint chip samples to determine if lead-based paint is present in the area planned for renovation and send them to an EPA-recognized lead lab for analysis. In housing receiving federal assistance, the person collecting these samples must be a certified lead-based paint inspector or risk assessor
- Use EPA-recognized tests kits to determine if lead-based paint is absent (but not in housing receiving federal assistance)
- Presume that lead-based paint is present and use lead-safe work practices

There are state and federal programs in place to ensure that testing is done safely, reliably, and effectively. Contact your state or local agency for more information, visit epa.gov/lead, or call **1-800-424-LEAD (5323)** for a list of contacts in your area.³

³ Hearing- or speech-challenged individuals may access this number through TTY by calling the Federal Relay Service at 1-800-877-8399.

What You Can Do Now to Protect Your Family

If you suspect that your house has lead-based paint hazards, you can take some immediate steps to reduce your family's risk:

- If you rent, notify your landlord of peeling or chipping paint.
- Keep painted surfaces clean and free of dust. Clean floors, window frames, window sills, and other surfaces weekly. Use a mop or sponge with warm water and a general all-purpose cleaner. (Remember: never mix ammonia and bleach products together because they can form a dangerous gas.)
- Carefully clean up paint chips immediately without creating dust.
- Thoroughly rinse sponges and mop heads often during cleaning of dirty or dusty areas, and again afterward.
- Wash your hands and your children's hands often, especially before they eat and before naptime and bedtime.
- Keep play areas clean. Wash bottles, pacifiers, toys, and stuffed animals regularly.
- Keep children from chewing window sills or other painted surfaces, or eating soil.
- When renovating, repairing, or painting, hire only EPA- or state-approved Lead-Safe Certified renovation firms (see page 12).
- Clean or remove shoes before entering your home to avoid tracking in lead from soil.
- Make sure children eat nutritious, low-fat meals high in iron, and calcium, such as spinach and dairy products. Children with good diets absorb less lead.

9

Reducing Lead Hazards

Disturbing lead-based paint or removing lead improperly can increase the hazard to your family by spreading even more lead dust around the house.

- In addition to day-to-day cleaning and good nutrition, you can temporarily reduce lead-based paint hazards by taking actions, such as repairing damaged painted surfaces and planting grass to cover lead-contaminated soil. These actions are not permanent solutions and will need ongoing attention.



- You can minimize exposure to lead when renovating, repairing, or painting by hiring an EPA- or state-certified renovator who is trained in the use of lead-safe work practices. If you are a do-it-yourselfer, learn how to use lead-safe work practices in your home.
- To remove lead hazards permanently, you should hire a certified lead abatement contractor. Abatement (or permanent hazard elimination) methods include removing, sealing, or encasing lead-based paint with special materials. Just painting over the hazard with regular paint is not permanent control.

Always use a certified contractor who is trained to address lead hazards safely.

- Hire a Lead-Safe Certified firm (see page 12) to perform renovation, repair, or painting (RRP) projects that disturb painted surfaces.
- To correct lead hazards permanently, hire a certified lead abatement professional. This will ensure your contractor knows how to work safely and has the proper equipment to clean up thoroughly.

Certified contractors will employ qualified workers and follow strict safety rules as set by their state or by the federal government.

10

Reducing Lead Hazards, continued

If your home has had lead abatement work done or if the housing is receiving federal assistance, once the work is completed, dust cleanup activities must be conducted until clearance testing indicates that lead dust levels are below the following levels:

- 40 micrograms per square foot ($\mu\text{g}/\text{ft}^2$) for floors, including carpeted floors
- 250 $\mu\text{g}/\text{ft}^2$ for interior windows sills
- 400 $\mu\text{g}/\text{ft}^2$ for window troughs

For help in locating certified lead abatement professionals in your area, call your state or local agency (see pages 14 and 15), or visit epa.gov/lead, or call 1-800-424-LEAD.

Renovating, Remodeling, or Repairing (RRP) a Home with Lead-Based Paint

If you hire a contractor to conduct renovation, repair, or painting (RRP) projects in your pre-1978 home or childcare facility (such as pre-school and kindergarten), your contractor must:

- Be a Lead-Safe Certified firm approved by EPA or an EPA-authorized state program
- Use qualified trained individuals (Lead-Safe Certified renovators) who follow specific lead-safe work practices to prevent lead contamination
- Provide a copy of EPA's lead hazard information document, *The Lead-Safe Certified Guide to Renovate Right*



RRP contractors working in pre-1978 homes and childcare facilities must follow lead-safe work practices that:

- **Contain the work area.** The area must be contained so that dust and debris do not escape from the work area. Warning signs must be put up, and plastic or other impermeable material and tape must be used.
- **Avoid renovation methods that generate large amounts of lead-contaminated dust.** Some methods generate so much lead-contaminated dust that their use is prohibited. They are:
 - Open-flame burning or torching
 - Sanding, grinding, planing, needle gunning, or blasting with power tools and equipment not equipped with a shroud and HEPA vacuum attachment and
 - Using a heat gun at temperatures greater than 1100°F
- **Clean up thoroughly.** The work area should be cleaned up daily. When all the work is done, the area must be cleaned up using special cleaning methods.
- **Dispose of waste properly.** Collect and seal waste in a heavy duty bag or sheeting. When transported, ensure that waste is contained to prevent release of dust and debris.

To learn more about EPA's requirements for RRP projects visit epa.gov/getlead/safe, or read *The Lead-Safe Certified Guide to Renovate Right*.

Other Sources of Lead

While paint, dust, and soil are the most common sources of lead, other lead sources also exist:

- **Drinking water.** Your home might have plumbing with lead or lead solder. You cannot see, smell, or taste lead, and boiling your water will not get rid of lead. If you think your plumbing might contain lead:
 - Use only cold water for drinking and cooking.
 - Run water for 15 to 30 seconds before drinking it, especially if you have not used your water for a few hours.Call your local health department or water supplier to find out about testing your water, or visit epa.gov/lead for EPA's lead in drinking water information.
- **Lead smelters** or other industries that release lead into the air.
- **Your job.** If you work with lead, you could bring it home on your body or clothes. Shower and change clothes before coming home. Launder your work clothes separately from the rest of your family's clothes.
- **Hobbies** that use lead, such as making pottery or stained glass, or refinishing furniture. Call your local health department for information about hobbies that may use lead.
- **Old toys and furniture** may have been painted with lead-containing paint. Older toys and other children's products may have parts that contain lead.⁴
- **Food** and liquids cooked or stored in **lead crystal** or **lead-glazed pottery or porcelain** may contain lead.
- Folk remedies, such as "**greta**" and "**azarcon**," used to treat an upset stomach.

⁴ In 1976, the federal government banned toys, other children's products, and furniture with lead-containing paint (16 CFR 1303). In 2008, the federal government banned lead in most children's products. The federal government currently bans lead in excess of 100 parts by weight in most children's products (76 FR 44463).

For More Information

The National Lead Information Center

Learn how to protect children from lead poisoning and get other information about lead hazards on the Web at epa.gov/lead and hdg.gov/lead, or call **1-800-424-LEAD (5323)**.

EPA's Safe Drinking Water Hotline

For information about lead in drinking water, call **1-800-426-4791**, or visit epa.gov/lead for information about lead in drinking water.

Consumer Product Safety Commission (CPSC) Hotline

For information on lead in toys and other consumer products, or to report an unsafe consumer product or a product-related injury, call **1-800-638-2772**, or visit CPSC's website at cpsc.gov or saferproducts.gov.

State and Local Health and Environmental Agencies

Some states, tribes, and cities have their own rules related to lead-based paint. Check with your local agency to see which laws apply to you. Most agencies can also provide information on finding a lead abatement firm in your area, and on possible sources of financial aid for reducing lead hazards. Receive up-to-date address and phone information for your state or local contacts on the Web at epa.gov/lead, or contact the National Lead Information Center at **1-800-424-LEAD**.

Hearing- or speech-challenged individuals may access any of the phone numbers in this brochure through TTY by calling the toll-free Federal Relay Service at 1-800-877-8339.

U. S. Environmental Protection Agency (EPA) Regional Offices

The mission of EPA is to protect human health and the environment. Your Regional EPA Office can provide further information regarding regulations and lead protection programs.

Region 1 (Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont)
Regional Lead Contact
U.S. EPA Region 1
5 Post Office Square, Suite 100, 065 05-4
Boston, MA 02109-3912
(888)372-7341

Region 2 (New Jersey, New York, Puerto Rico, Virgin Islands)
Regional Lead Contact
U.S. EPA Region 2
2890 Woodbridge Avenue
Building 205, Mail Stop 225
Edison, NJ 08837-0679
(732)321-6671

Region 3 (Delaware, Maryland, Pennsylvania, Virginia, DC, West Virginia)
Regional Lead Contact
U.S. EPA Region 3
1650 Arch Street
Philadelphia, PA 19103
(215)814-2088

Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)
Regional Lead Contact
U.S. EPA Region 4
AEC Tower, 12th Floor, Air, Pesticides & Toxics
61 Foyt St, SE
Atlanta, GA 30308
(404)562-8998

Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)
Regional Lead Contact
U.S. EPA Region 5 (07-81)
77 West Jackson Boulevard
Chicago, IL 60604-3666
(312)886-7816

Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas, and 66 Tribes)
Regional Lead Contact
U.S. EPA Region 6
1445 Ross Avenue, 13th Floor
Dallas, TX 75202-2733
(214) 665-2704

Region 7 (Iowa, Kansas, Missouri, Nebraska)
Regional Lead Contact
U.S. EPA Region 7
11201 Riverchase Blvd
Wynnton, MO
Lewistown, MO 65219
(800) 223-0425

Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)
Regional Lead Contact
U.S. EPA Region 8
1395 Wynkoop St
Denver, CO 80202
(303) 312-6966

Region 9 (Arizona, California, Hawaii, Nevada)
Regional Lead Contact
U.S. EPA Region 9 (CADD-42)
75 Hawthorne Street
San Francisco, CA 94105
(415) 947-4280

Region 10 (Alaska, Idaho, Oregon, Washington)
Regional Lead Contact
U.S. EPA Region 10
Solid Waste & Toxics Unit (WCA-128)
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
(206) 533-1200

Consumer Product Safety Commission (CPSC)

The CPSC protects the public against unreasonable risk of injury from consumer products through education, safety standards activities, and enforcement. Contact CPSC for further information regarding consumer product safety and regulations.

CPSC

4330 East West Highway
Bethesda, MD 20814-4421
1-800-638-2772
cpsc.gov or saferproducts.gov

U. S. Department of Housing and Urban Development (HUD)

HUD's mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. Contact HUD's Office of Healthy Homes and Lead Hazard Control for further information regarding the Lead Safe Housing Rule, which protects families in pre-1978 assisted housing, and for the lead hazard control and research grant programs.

HUD

451 Seventh Street, SW, Room 8236
Washington, DC 20410-3000
(202) 402-7698
hud.gov/offices/lead/

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U.S. EPA, Washington DC 20460
U.S. CPSC, Bethesda MD 20814
U.S. HUD, Washington DC 20410

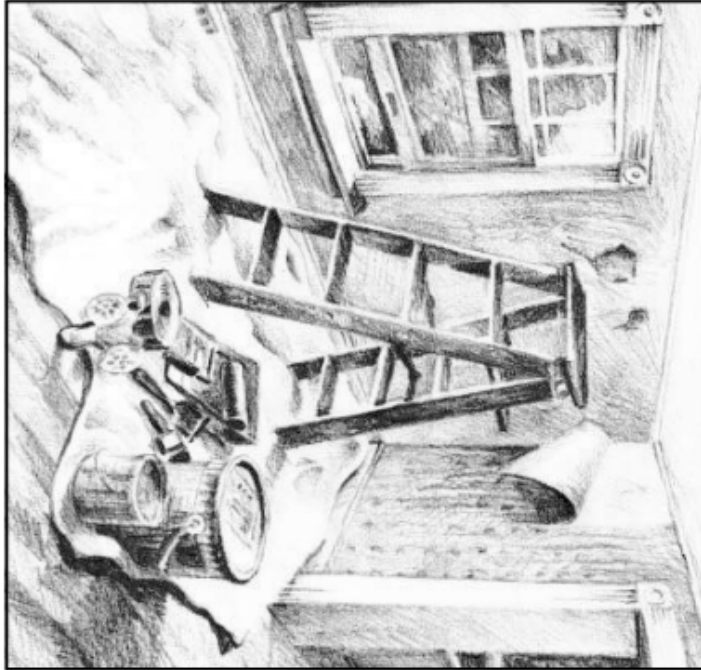
EPA-747-R-12-001
December 2012

IMPORTANT!

Lead From Paint, Dust, and Soil in and Around Your Home Can Be Dangerous if Not Managed Properly

- Children under 6 years old are most at risk for lead poisoning in your home.
- Lead exposure can harm young children and babies even before they are born.
- Homes, schools, and child care facilities built before 1978 are likely to contain lead-based paint.
- Even children who seem healthy may have dangerous levels of lead in their bodies.
- Disturbing surfaces with lead-based paint or removing lead-based paint improperly can increase the danger to your family.
- People can get lead into their bodies by breathing or swallowing lead dust, or by eating soil or paint chips containing lead.
- People have many options for reducing lead hazards. Generally, lead-based paint that is in good condition is not a hazard (see page 10).

“Reducing Lead Hazards When Remodeling Your Home”



United States Environmental Protection Agency Office of Pollution Prevention and Toxics **Reducing Lead Hazards When Remodeling Your Home**

EPA 747-K-97-001
September 1997

EPA 747-K-97-001
September 1997

The U.S. Environmental Protection Agency is concerned about homeowners and building professionals who may be exposed to lead as a result of remodeling or renovation projects.

The purpose of this pamphlet is to help reduce lead exposure when conducting home renovation and remodeling activities. This pamphlet will be updated as new information about lead hazard reduction becomes available.

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Who should read this pamphlet

This pamphlet is for anyone involved in a home improvement project—whether you are actually doing the work yourself or overseeing the work of renovation and remodeling professionals. Using the described practices will help keep lead dust levels lower during the project and protect homeowners and children. They also will reduce the amount of lead dust inhaled and show how to clean up lead dust once the project is completed.

This pamphlet can help homeowners and contractors do remodeling or renovation work safely. It will alert you to the hazards involved in handling lead-based painted surfaces and will provide useful methods you can use to reduce or eliminate exposures to lead. If you are uncertain how to properly perform any of these methods or where to be properly fitted for a respirator, you may want to call on a trained contractor or call your State lead program contact (see page 23).

This pamphlet is not intended for use as a guide for lead-based paint abatement procedures. Unlike remodeling and renovation activities, “abatement” is a process used only to address lead-based paint hazards. EPA has promulgated regulations for certification and training of professionals engaged in lead abatement. You should check with your State lead program contact (refer to page 23) for further information on these regulations.

EPA has proposed a rule requiring renovation and remodeling contractors to provide the EPA pamphlet, *Protect Your Family From Lead in Your Home*, to homeowners and occupants of most pre-1978 homes before they begin work. You should call the National Lead Information Clearinghouse (800-424-LEAD) to get further information on the availability of the pamphlet.

Lead-based paint is poisonous. The smallest lead dust particles cannot be seen but they can get into the body. The dust and chips from lead-based paint are dangerous when swallowed or inhaled, especially to small children and pregnant women. Lead can affect children's developing nervous systems, causing reduced IQ and learning disabilities. In adults, high lead levels can cause high blood pressure, headaches, digestive problems, memory and concentration problems, kidney damage, mood changes, nerve disorders, sleep disturbances, and muscle or joint pain. A single, very high exposure to lead can cause lead poisoning. Lead can also affect the ability of both women and men to have healthy children.

A home built in or after 1978 should not contain lead-based paint since lead-based paint was banned for use in residences in 1978; however, a home built before 1978 is likely to have surfaces painted with lead-based paint. If you work on these painted surfaces, you can be exposed to lead. Even if the lead-based paint has been covered with new paint or another covering, cracked or chipped painted surfaces can expose the lead-based paint, possibly creating a lead hazard. Dry-sanding, scraping, brushing, or blasting lead-based paint can produce dust and paint chips. Burning lead-based paint with open flame torches to make it easier to strip is especially dangerous. The fumes from the hot paint contain lead and volatile chemicals that are poisonous when inhaled.

Be concerned if your home was built before 1978. It may have lead-based hazards.



2

Lead hazards

Is my family okay?

Renovation and remodeling activities can make a lot of dust that contains lead in and around your home. If you are concerned that your family has been exposed to lead-based paint, call your doctor or local health department to arrange for a blood test.

Will the job create lead hazards?

Can I do the work?

It is extremely important that you properly use all the methods in this pamphlet in order to protect you and your family from lead dust, both during and after the project. Unless you can follow all of the work practices and safety precautions in this pamphlet, you should hire professionals to do your renovation or remodeling work. If you decide to hire remodeling professionals, make sure they have training and experience in dealing with the hazards of remodeling or removing homes with lead-based paint.

3

- To be sure that you're not dealing with lead-based paint you must have the paint tested by a qualified professional. Use a trained inspector to test your home. A trained inspector will test the surfaces of your home by using a portable X-ray fluorescence (XRF) machine which measures the amount of lead in the paint or by sending paint samples to a laboratory equipped to measure lead in paint. The results of using chemical testing kits are not recommended. To find an inspector, contact your State agency listed on page 23 or call 1-(888) LEADLIST to obtain a list of trained inspectors.
- If you are removing paint or breaking through painted surfaces, you should be concerned about lead-based paint hazards. If your job involves removing paint, sanding, patching, scraping, or tearing down walls, you should be concerned about exposure to lead-based paint hazards. If you are doing other work, such as removing or replacing windows, baseboards, doors, plumbing fixtures, heating and ventilation duct work, or electrical systems, you should be concerned about lead-based paint hazards, since you may be breaking through painted surfaces to do these jobs.
- If you are working on any painted surface, you should be concerned about lead-based paint hazards. You may find lead-based paint on any surface in your home including walls, interior trim, window sashes and frames, floors, radiators, doors, stairways, railings, porches, and exterior siding.

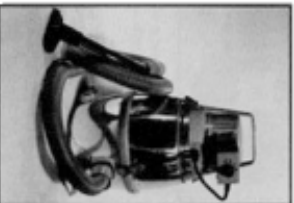
Getting the right equipment and knowing how to use it are essential steps in protecting yourself during remodeling or renovating.

- A high-efficiency particulate air (HEPA) filter-equipped vacuum cleaner is a special type of vacuum cleaner that can remove very small particles from floors, window sills, and carpets and keeps them inside the vacuum cleaner. Regular household or shop vacuum cleaners are not completely effective in removing lead dust. They may blow the lead dust out through their exhausts and spread the dust throughout the home. HEPA vacuum cleaners are available through laboratory safety and supply catalogs and vendors. They can sometimes be rented at stores that carry remodeling tools.

- You need to use a NIOSH-certified respirator that is properly fitted and equipped with HEPA filters to remove lead dust particles out of the air you breathe. Make sure you buy specific HEPA filters—they are always purple. Dust filters and dust masks are not effective in preventing you from breathing in lead particles. Follow the directions that come with the respirator to make sure it fits. A respirator that does not fit right will not work. Respirators are available through laboratory safety and supply catalogs and vendors, and are sometimes carried by paint and hardware stores.

- Protective clothes, such as coveralls, shoe covers, hats, goggles, face shields, and gloves should be used to help keep lead dust from being tracked into areas outside of the work site. These items are available through laboratory safety equipment supply catalogs and vendors. Inexpensive disposable suits can sometimes be purchased at paint stores.

Useful equipment and where to get it



Use a HEPA filter-equipped vacuum cleaner. Standard household and shop vacuum cleaners are not effective at removing lead dust.

4

- Heavy-duty polyethylene plastic sheeting for covering areas exposed to lead dust can be purchased at hardware stores or lumber yards. The label should say that the plastic is made of polyethylene and is 6 mils thick.

- Duct tape to hold the plastic in place, and completely seal the work areas, can be purchased at hardware stores and lumber yards.

- Wet-sanding equipment, wet/dry abrasive paper, and wet-sanding sponges for “wet methods” can be purchased at hardware stores.

- Spray bottles for wetting surfaces to keep dust from spreading can be purchased at general retail and garden supply stores.

- Cleaning products to use include: either a general all-purpose cleaner or a cleaner made specially for lead to clean the dust from renovation or remodeling activities. All-purpose cleaners can be found in grocery stores. Lead-specific cleaning products can be purchased from some paint and hardware stores.

- Buckets with wringers, debris containers, disposable heavy-duty plastic bags, rags, rakes, shovels, sponges, and string mops for ongoing, daily, and final cleaning can be purchased at hardware and retail stores.

5

You must protect yourself and your family from breathing lead dust created by renovation and remodeling projects.

- Keep all non-workers, especially children, pregnant women, and pets outside of the work area while doing remodeling or renovation work until cleanup is completed.
- Break large projects into several small projects so that you can control the amount of lead dust made. Clean up after each phase of the project.
- Wear a properly fitted respirator equipped with HEPA filters.
- Wear protective clothing such as coveralls, shoe covers, goggles, and gloves to keep dust off your skin. Launder these items separately.
- Change your clothes and shoes before leaving the work area to avoid carrying lead dust throughout the house.
- Machine wash your work clothes separately from other family laundry.
- Shower and wash hair right after finishing work to reduce dust contamination.
- Do not eat, smoke, or drink in the work area to avoid accidentally swallowing lead dust. Wash your hands and face before eating, smoking, or drinking.
- Dispose of used wash water down a toilet.* Never pour wash water on soil.

* Check with your State lead program (see page 23) to make sure there are no regulations in your State that prohibit this.

Safe work practices



Do wear a respirator so you don't breathe in lead.



Don't wear dust masks—they won't protect you from lead.

6

Setting up to work inside



Close off entryways with an airtock.

- Dust contaminated with lead can cling to your clothes and skin, to walls and floors, and to furniture and floor coverings. Forced-air heating and air conditioning systems also can spread dust throughout your home. To keep dust from spreading throughout your home, take the following safeguards:
- Remove furniture, area rugs, curtains, food, clothing, and other household items until cleanup is complete. If you are removing wall-to-wall carpet as part of your remodeling job, see page 10.
 - A layer of polyethylene plastic sheeting, at least 6 mils thick, should be placed on the floor and on the furnishings and exposed surfaces that cannot be removed, such as countertops and shelves. Cover openings, such as gaps around pipes, with a single sheet of plastic. All plastic should be secured with duct tape.
 - Turn off forced-air heating and air conditioning systems during renovation and remodeling. Cover vents with plastic sheeting and tape the sheeting in place with duct tape. Windows should be kept closed unless volatile chemicals will be used.
 - An airtock should be constructed at the entry to the work area. The airtock consists of two sheets of plastic. One sheet is completely taped along all four edges. The tape must extend all the way around the top, two sides, and the floor. This plastic sheet is then cut down the middle. The second sheet is only taped along the top and acts as a flap covering the slit in the first sheet of plastic. If two entryways exist, one should be completely sealed in plastic. As an alternative, the doorway can be taped closed on all sides.

7

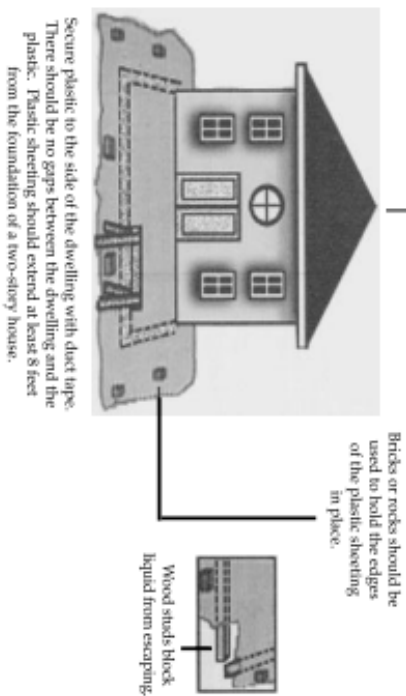
Setting up to work outside

Exterior work often produces dust, paint chips, larger pieces of material, and liquids that contain lead. It is easy to track dust containing lead inside your home, where it can pose a hazard. Trash that contains lead also can contaminate the soil surrounding the house if you don't handle it correctly. To avoid contaminating the areas surrounding your house, take the following precautions:

- If using a ladder, anchor it securely to the ground, not to the plastic which can be punctured.
- If wind speeds exceed 20 mph, or if it begins to rain, stop and complete cleanup.
- One lead-safe entryway should be made available to residents at all times. Do not treat front and rear entrances simultaneously if there is not a third doorway.
- Cover the ground and any plants or flowers with 6 mil polyethylene plastic sheeting to catch dust and trash. A single sheet of polyethylene plastic sheeting, at least 6 mils thick, should extend at least 5 feet from the base of the dwelling and an additional 3 feet for each additional story.
- All windows, including windows in adjacent dwellings, within 20 feet of the work area should be kept closed.

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- Playground equipment, sandboxes, and toys should be moved at least 20 feet away from the work area. If items cannot be moved from the area, then they should be sealed with plastic sheeting.
- Remove personal belongings from the area before starting work.



9

Carpet removal

If you plan to remove or replace your carpet as part of a remodeling job, take the following steps to avoid spreading lead dust:

- Mist the entire surface of the carpet with water to keep dust down.
- Roll the carpet inward to avoid spreading dust to other areas.
- Wrap carpet and pad in 6 mil polyethylene plastic sheeting. Tape seams closed with duct tape.
- Vacuum floor with a HEPA filter-equipped vacuum cleaner after the carpet is wrapped but before you remove it.
- HEPA vacuum the floor again after you remove the carpet.



Mist carpet surfaces with water to reduce spread of dust.

10

HVAC duct work

Heating, ventilation, and air conditioning system ducts can accumulate dust for many years. If you suspect that the dust contains lead, follow these steps when replacing or cleaning the ducts:

- Cover the floor under the ducts with 6 mil polyethylene plastic sheeting to catch dry falling dust.
- Use a HEPA filter-equipped vacuum cleaner to remove dust from the inside of the ducts before beginning work.
- Rinse the duct pieces in an area well away from the house before reinstalling them. If you are disposing of old duct pieces, first wrap them in plastic and seal with duct tape.



Heating and air conditioning ducts can accumulate dust that contains lead.

11

Minor repairs

If you plan to conduct minor repairs on painted surfaces, such as repairing or replacing a door lock, repairing a door, drilling holes to install shelves, or sawing into painted wood or plaster, then wet methods and simple cleaning can reduce hazards of lead dust:

- Cover the floor under the work area with 6 mil polyethylene plastic sheeting to catch any sludge or dust.
- Spray the work area surface with water to reduce the amount of dust generated during the minor repair.
- To eliminate friction points on a door, first mist the door, then remove the door to plane it. Keep door surfaces being planed wet during repair. Replace the door when the work is complete.
- Vacuum the floor under the work area and all surfaces within 5 feet of the work area with a HEPA filter-equipped vacuum cleaner.

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Plumbing work



Remove faucet aerators and clean out any debris.

If you are working on older pipes that contain lead solder, you should be concerned about lead hazards in plumbing. Disturbing lead-soldered pipes can dislodge pieces of lead solder that can get into your drinking water or come to rest in aerators or the bottom of pipes or joints. Follow these precautions to reduce lead hazards in plumbing:

During work:

- Follow the practices outlined in the Minor repairs section (page 12) when you break through walls or floors to reach pipes.
- Use adequate ventilation to avoid inhaling dangerous fumes from soldering.
- Promptly dispose of solder pieces in heavy-duty plastic bags when you finish plumbing work.
- Use lead-free solder when working on drinking water plumbing.

After work is completed:

- Remove faucet aerators and clean out any debris before re-installing them. Look carefully for grit or pieces of solder and remove them.
- Flush the supply pipes you have been working on by letting them run for several minutes with the aerators removed. The water flowing through the pipes removes small pieces of loose solder.

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Paint removal usually creates extensive amounts of lead and lead dust when using processes such as heat, chemicals, and sharp tools. It can be performed safely and effectively by following the precautions below.

- The painted surface should be misted with water first. The paint may be removed by wet scraping or wet sanding with a HEPA vacuum attachment, or using a wet-sanding sponge. Wipe the area you are sanding often and rinse the sponge in a bucket of water.
 - Chemical strippers may be used to remove paint, but those containing methylene chloride are not recommended. Exercise caution when using paint strippers since they contain toxic chemicals.
 - Heat guns may be used to remove paint, but do not use those that operate above 1,100° F.
 - For mechanical removal methods (such as HEPA vacuum blasting, machine sanding or grinding), use tools equipped with HEPA exhaust capability.
- After removing the paint, wash the surface with a recommended cleaning product (see page 5), rinse, and let dry before re-treating.

Paint removal and floor refinishing

Using heat guns

Do not use a heat gun operating above 1,100°F or open flame torches to loosen lead-based paint. Heating and burning lead-based paint makes dangerous fumes and vapors.

Preparing surfaces for new paint or wallpaper

Blasting and power washing

Do not blast or power wash lead-based painted surfaces. Blasting and power washing create large amounts of dust and waste water that contain lead and can contaminate large areas.

Preparing walls and other surfaces for painting, staining, or wallpapering can create lead exposure risks. With good work practices, you can reduce the risk of exposure to lead.

- Cover the floor and furniture with 6 mil polyethylene plastic sheeting.
- Avoid sanding lead-based painted surfaces whenever possible. If you must sand, use a sander with a vacuum attachment connected to a HEPA filter-equipped vacuum cleaner, or use a wet-sanding sponge.
- Wipe the area you are sanding often and rinse the sponge in a bucket of water. Strain out any chips of paint and dispose of them in heavy-duty plastic bags. Dispose of the used wash water down the toilet.* Wash the walls with a recommended cleaning product (refer to page 5), rinse, and let dry before painting or wallpapering. Be careful while wet sanding because wet plastic can be very slippery.
- Exercise caution when using paint strippers since they contain toxic chemicals. Chemical strippers containing methylene chloride are not recommended.
- If you intend to feather or scrape the lead-based painted surface, spray the work area surface with water to reduce the amount of dust. For scraping, use a wet-scraper with a HEPA filter-equipped exhaust.

* Check with your State lead program (see page 23) to make sure there are no regulations in your State that prohibit this.

Removal of large structures

When you demolish and remove large structures painted with lead-based paint, such as walls, door frames, floor coverings, and ceilings, you are likely to be left with large amounts of dust and trash that contain lead.

To reduce exposure to large amounts of lead dust:

- Seal off the work area by covering entryways with 6 mil polyethylene plastic sheeting.
- Cover nearby windows with 6 mil polyethylene plastic sheeting.
- Turn off forced-air heating and air conditioning systems. Then cover heating and air conditioning vents with a layer of 6 mil polyethylene plastic sheeting.
- Remove rugs and furniture from the work area, if possible.
- Cover the floors and the furniture in the work area and adjoining areas with 6 mil polyethylene plastic sheeting.
- Wet the surface and debris as you demolish it to keep dust levels down.
- Remove and dispose of trash properly. Allowing debris to accumulate in the work area increases the risk of spreading dust through the house.



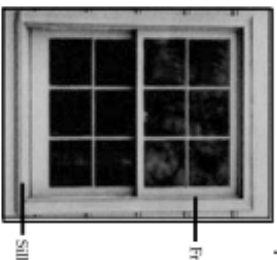
Wear protective clothing and a respirator when removing walls that may contain lead.

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Window work

Window sills and window frames on homes built before 1978 can have high amounts of lead-based paint. Since these items are seldom replaced, paint tends to build up on them. Follow these basic safety precautions for working on these types of windows:

- For window pane/glass replacement, cover the floor inside under the window with 6 mil polyethylene plastic sheeting to catch any dust fall. Spray the work area surface with water to reduce the amount of dust generated when replacing the window pane/glass. Score the window pane/glass with a razor knife to facilitate its removal. Collect all dust and paint chips and dispose in a sealed plastic bag.
- For window repair, cover the floor inside under the window with plastic sheeting to catch any dust fall. Spray the work area surface with water to reduce the amount of dust generated when repairing the window. Wet scrape deteriorated paint. Collect all dust and paint chips and dispose in a sealed plastic bag.
- For window replacement, cover the entire inside window opening with plastic sheeting. Cover the floor inside under the window and the ground outside the window with 6 mil polyethylene plastic sheeting to catch any dust fall. Spray the window sill and frame with water to reduce the dust. Remove the window unit from the outside, if possible. Collect all dust and paint chips and dispose of them in a sealed plastic bag.



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Cleaning includes not only the removal of visible debris but also the removal of leaded dust particles which are too small to be seen by the naked eye.

Pay special attention to cleanup activities to prevent contaminating other areas or exposing people to lead. Everyone working on your job should take the precautions given here to help prevent lead contamination.

Personal cleanup:

- Vacuum dust from clothing using a HEPA filter-equipped vacuum cleaner.
- Wash your hands and face before you leave the work site.
- Change your clothes and shoes before leaving the work site to prevent contaminating areas outside the work site. After removing your clothes, machine wash them separately from other family laundry.
- Do not take off your respirator until after you have removed your outer protective clothing.
- Shower and wash your hair right after finishing work to prevent spreading lead dust.



Wash hands thoroughly to remove lead dust.

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Cleaning up lead waste



Vacuum dust from clothing.

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Daily site cleanup:

- Dispose of construction trash in a heavy-duty plastic bag.* Carefully remove the dust and trash from the plastic sheeting to avoid contaminating other areas. If possible, pass the trash out a window to avoid carrying it through the house.
- Strain out paint chips from liquid waste and dispose of them in a heavy-duty plastic bag. Dispose of the remaining water down a toilet.*
- Mop the floors with a cleaning product recommended on page 5 using a disposable mop and water in areas where there is little dust, or vacuum with a HEPA filter-equipped vacuum cleaner. Change wash water frequently. Rinse with clean water. Dispose of used water down a toilet.*
- Vacuum the plastic sheeting covering wall-to-wall carpeting with a HEPA filter-equipped vacuum cleaner.
- Mist outside areas using a garden hose before sweeping these areas with a broom. Avoid dry sweeping since it spreads lead dust. Shovel, rake, or vacuum (HEPA filter-equipped) trash into heavy-duty plastic bags* placed in cardboard boxes for support.
- Clean your vacuums and tools with a recommended cleaning product (refer to page 5) and water.
- Seal off the entryways with 6 mil polyethylene plastic if you have to leave a work site unattended.

* Check with your State lead program (see page 23) to make sure there are no regulations in your State that prohibit this.

Final cleanup:

- Start your cleanup work from the dirtiest part of the work area and work toward the clean area of the house.
- Work from the top of the room toward the bottom, cleaning ceilings first, then walls, counters, and floors.
- Carefully remove any plastic sheeting used to protect surfaces by rolling or folding inward.
- Wash floors and walls with a recommended cleaning product (refer to page 5). Dispose of used wash water down a toilet.
- Vacuum walls, floors, and wall-to-wall carpeting with a HEPA filter-equipped vacuum cleaner.
- Vacuum chair rails, window sills, casings, shelves, countertops, and baseboards again, once they are dry.

Am I done?

Consider hiring a professional to test areas for lead dust contamination after your final cleanup. Call your local health department or the National Lead Information Center Clearinghouse at (800) 424-LEAD for a referral to a lead-testing professional.

Smart Remodeling Checklist

Before the work begins

- Have your paint tested for lead by a qualified professional.
- Cover interior and exterior exposed areas with plastic sheeting.
- Turn off forced-air heating and air conditioning systems.

During work

- Keep all non-workers outside of the work area.
- Wear protective clothing and shoes while doing the work.
- Use a properly fitted respirator equipped with HEPA filters.
- Exercise caution when using paint strippers since they contain toxic chemicals.
- Do not eat, drink, or smoke in the work area.
- Do not dry-sand, blast, or power-wash to remove lead-based paint.
- Do not use high-temperature heat guns or open flames on lead-based paint.

After work is completed

- Remove plastic sheeting by rolling or folding inward.
- Wrap construction debris with plastic.
- Vacuum exposed areas with a HEPA filter-equipped vacuum cleaner.
- Wash exposed areas with a general all-purpose cleaner or lead-specific cleaning product.
- Change clothes and shoes before leaving the work area. Machine wash separately.
- Shower and wash your hair right after finishing work.
- Test areas for lead dust contamination after final cleanup.

You may need additional information on how to protect yourself while remodeling or renovating. For more information:

- Call your State lead-poisoning prevention contact and your State Department of Environmental Protection to find out what assistance is available. Phone numbers of State lead poisoning prevention contacts are listed on the next page.
- Call your local building code officials to find out what regulations apply to the renovation and remodeling work that you are planning.
- Call your local health department to find out what other information is available about lead hazards and what assistance is available to you.
- Call the National Lead Information Center at (800) 424-LEAD to get a list of laboratories that can analyze paint and dust samples for lead, and to obtain other important lead hazard information, such as the pamphlets *Lead Poisoning and Your Child* and *Protect Your Family From Lead in Your Home*. In the future, renovation and remodeling contractors may be required to provide a copy of this pamphlet to homeowners and occupants before they begin work.
- Call the Housing and Urban Development (HUD) Office of Lead Hazard Control at (888) LEADLIST to obtain a list of trained inspectors.
- Call the Occupational Safety and Health Administration (OSHA), Department of Job Safety and Health at (202) 219-8151 to get information on respirators and protective clothing.
- Call the National Conference of State Legislatures at (303) 830-2200 to get information about the current state regulations for disposing of lead waste in your area.

Helpful contacts

State Lead Program Contacts

Some cities and states have their own rules for lead-based paint activities. Check with your State agency (listed below) to see if state or local laws apply to you. Most state agencies can also provide information on finding a lead abatement firm in your area, and on possible sources of financial aid for reducing lead hazards.

Alabama	(205) 242-5661	Montana	(406) 444-3671
Alaska	(907) 465-5152	Nebraska	(402) 471-2451
Arkansas	(501) 661-2534	Nevada	(702) 687-6615
Arizona	(602) 542-7307	New Hampshire	(603) 271-4507
California	(510) 450-2424	New Jersey	(609) 633-2043
Colorado	(303) 692-3012	New Mexico	(505) 841-8024
Connecticut	(203) 566-5808	New York	(800) 458-1158
Washington, D.C.	(202) 727-9850	North Carolina	(919) 715-3293
Delaware	(302) 739-4735	North Dakota	(701) 328-5188
Florida	(904) 488-3385	Ohio	(614) 466-1450
Georgia	(404) 657-6514	Oklahoma	(405) 271-5220
Hawaii	(808) 832-5860	Oregon	(503) 248-5240
Idaho	(208) 332-5544	Pennsylvania	(717) 782-2884
Illinois	(800) 545-2200	Rhode Island	(401) 277-3424
Indiana	(317) 382-6662	South Carolina	(803) 935-7945
Iowa	(800) 972-2026	South Dakota	(605) 773-3153
Kansas	(913) 296-0189	Tennessee	(615) 741-5683
Kentucky	(502) 564-2154	Texas	(512) 834-6600
Louisiana	(504) 765-0219	Utah	(801) 536-4000
Massachusetts	(800) 532-9571	Vermont	(802) 863-7231
Maryland	(410) 631-3859	Virginia	(800) 523-4019
Maine	(207) 287-4311	Washington	(206) 753-2556
Michigan	(517) 335-8885	West Virginia	(304) 558-2981
Minnesota	(612) 627-5498	Wisconsin	(608) 266-5885
Mississippi	(601) 960-7463	Wyoming	(307) 777-7391
Missouri	(314) 526-4911		