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Other Programs for Seattle area and Local Residents

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Sections:

1. **Washington State Low – Income Weatherization Program Client Education Guide** 19 pages
<http://www.commerce.wa.gov/wp-content/uploads/2019/07/Client-Education-Guide.pdf>
2. **Defender CA6150 Residential Carbon Monoxide Alarm** _____ 3 pages
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4. **Does Your Attic Contain Vermiculite Insulation?** _____ 1 page
5. **EPA - How to Identify Materials That May Contain Asbestos** _____ 4 pages
<https://www.epa.gov/asbestos/protect-your-family-exposures-asbestos#identify>
6. **EPA - Fact Sheet, Protect Your Family from Asbestos-Contaminated Vermiculite** _____ 4 pages
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7. **EPA - Care for Your Air: A Guide to Indoor Air Quality** _____ 7 pages
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https://www.epa.gov/sites/production/files/2016-12/documents/2016_a_citizens_guide_to_radon.pdf



Seattle
Office of Housing

Dear Home Wise Client,

Thank you for applying to the Home Wise Weatherization Program. We look forward to doing our best to make your home more comfortable, energy efficient and safer.

Part of our mission is to educate you about what we will do in your home and why. As part of that effort we have sent you this package of information materials covering important health and safety concerns, that we will address as part of your Weatherization Audit.

We urge you to go through this package and note down any questions you may have. The auditor assigned to your project will be calling you to answer those questions, and to address any concerns you may have. Your auditor will also consult with you to set a day and time for your free Weatherization Audit. Before your auditor arrives, please be sure that neither your attic nor crawl access is blocked by stored items.

Because your health and safety are of primary concern to us, our auditors will be rigorously following all COVID 19 specific worksite safety practices, including personal protection equipment, social distancing, and workplace sanitizing. We ask that you, too, exercise approved safety precautions for yourself and any children who may be present. Should you have any family members you consider might be at risk, please inform your auditor so that he may discuss those concerns and possible solutions with you.

Thank you again for your interest in the Home Wise Weatherization Program.

OFFICE OF HOUSING WEATHERIZATION/REPAIR PROGRAM
COVID-19 Protection Plan Permission to Proceed by Resident**Name of Resident:** _____**Project address:** _____

PURPOSE: At the City of Seattle, Office of Housing (OH), we value the health and safety of our clients, staff, and contractors. This document contains the expectations for your contractor, and you the resident, during the course of your project.

We recognize that this is a stressful and uncertain time. Your safety and comfort are our top priority. If you would prefer to postpone your Weatherization/Repair project, OH will work with you to reschedule. In some cases, you may have to submit another application before work could begin.

CONTRACTOR EXPECTATIONS:

- Your contractor will provide a COVID-19 Safety Plan to you prior to beginning work.
- OH will review the contractor's COVID-19 Safety Plan and require the contractor to address any deficiencies in the plan prior to beginning work.
- If you, the contractor, or OH believes the project cannot be performed according to the contractor's COVID-19 Safety Plan, the project will be postponed until the work can be performed safely.
- If you have any concerns that work is not being completed according to your contractor's COVID-19 Safety Plan, please contact the contractor and OH staff immediately.

RESIDENT EXPECTATIONS: By signing below, you acknowledge everyone living in your home will abide by the following expectations. Failure to abide by these expectations could result in the work being postponed or canceled.

- Agree to communicate with contractors by phone or text whenever possible, rather than in person.
- Agree to a Health Symptoms Survey on any day work is scheduled to be performed at your home. The contractor will contact you prior to arriving at your home to ask if:
 - Anyone in household has a temperature or feels ill (cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, diarrhea.)
 - Any visitors are anticipated for the day.

Contractors will not go to your home if the Health Symptoms Survey cannot be completed or if anyone in the household is ill. The contractor will work with you to reschedule for a later date.

- Immediately contact OH staff and tell any workers on site if anyone in your household is feeling ill (cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, diarrhea)
- Do not shake hands with workers.
- At all times, maintain at least 10 feet distance from all workers.

**Office of Housing Weatherization/Repair Program
Covid-19 Protection Plan Permission to Proceed by Resident**

- Make a plan, with contractors, on where and how to isolate yourself and others living in your home while work is being performed and stick to that plan.
- Give workers access to running water. Workers will supply their own soap and disposable drying towels.
- Give workers access to bathroom facilities if needed.
- While work is being performed at your home, encourage all members of the household to wash and disinfect their hands regularly, before and after going to the bathroom, before and after eating and after coughing, sneezing, or blowing their nose.
- If not able to isolate yourself from workers, agree that every occupant in the home will wear a cloth mask while work is being performed on your home. If you do not have a mask, OH will provide one.
- Only allow essential visitors while workers on-site. Limit access to all visitors to your home for the entire duration of the Weatherization/Repair project.
- Log all occupants and visitors to home during the project (project start with the first site visit to final inspection which is the last site visit) and retain for your records for 4 weeks minimum.

INDEMNIFICATION: I hereby release and pledge to hold harmless, indemnify and defend City of Seattle, Office of Housing (OH), its agents, elected and appointed officials, servants and employees (collectively, "Indemnified Parties"), harmless from and against any liability and all claims for injuries, sickness or damage to persons or property of whatsoever kind or character in connection with the work, or any act or eventuality arising from this work, performed by any of the Indemnified Parties and any business contracted by any of the Indemnified Parties to perform work in the home located at the address listed above (Page 1).

RESIDENT ACKNOWLEDGEMENT:

Print Name

Date

Signature

Phone

e-mail address

**OFFICE OF HOUSING WEATHERIZATION/REPAIR PROGRAM
COVID-19 Protection Plan Permission to Proceed by Resident****Name of Resident:** _____**Project address:** _____

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**Office of Housing Weatherization/Repair Program
Covid-19 Protection Plan Permission to Proceed by Resident**

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RESIDENT ACKNOWLEDGEMENT:

_____	_____
Print Name	Date
_____	_____
Signature	Phone

e-mail address	

HOMEOWNER/SINGLE-FAMILY PROPERTY OWNER AUTHORIZATION AND RELEASES

The Office of Housing HomeWise Weatherization Program provides weatherization upgrades to qualified homeowners and tenants. An Office of Housing staff person has just completed an energy audit of your home to determine potential measures. The document below provides your authorization for next steps as well as shares important health and safety information.

SECTION 1: SCOPE OF WORK

Weatherization Measures Authorization: I have reviewed Attachment A: Potential Weatherization Measures, which is hereby incorporated into this agreement. I authorize the installation of all measures identified in Attachment A: Potential Weatherization Measures. I understand the final weatherization measures may change because of funding availability, cost-effectiveness criteria, funder rules, conditions found in home or other reasons.

Contractor Selection, Work Orders and Change Orders: I authorize the Office of Housing to choose the contractor to perform the installation of these measures. If I own and occupy the house receiving weatherization or am a tenant in a property receiving weatherization, I will not pay anything for labor or materials. If this is a rental property and I am the property owner, I may be responsible for a portion of the costs. If that is the case, I will be contacted by OH staff before work begins to arrange payment. I will be sent a copy of the work order before work begins. If I have any questions or concerns about the work order, I need to contact the Office of Housing before the contractor begins work. The work order may change depending on the conditions found in my home.

Refrigerators and Other Appliances: I may receive a new refrigerator or other appliance. The Office of Housing is not responsible for repair or replacement of any appliance I receive. I must contact the supplier or manufacturer of my appliance with any service issues I have.

Wall Insulation: Wall insulation is accomplished by drilling holes between every stud cavity. Homeowner/property owner approval is required before blown wall insulation can be installed. By signing at the end of this document, I authorize the insulation of wall insulation via the method identified on Attachment A: Potential Weatherization Measures. More details on each method is found below:

Method A: Exterior wall blow, drill holes through siding

The contractor will drill holes into the existing siding and blow insulation into the cavity. The contractor will drill multiple holes on each side of the house. The contractor will then fill each hole by driving a wooden plug with glue into the hole until the plug is slightly recessed. The contractor will fill the plug area with putty and then sand, smooth, and paint the area of the plug. The contractor will try to match the paint as closely as they are able but the area will probably be visible.

Method B: Exterior wall blow, remove non-vinyl siding, then drill holes

The contractor will remove some existing siding, drill a hole into the sheathing below and blow insulation into the cavity. Multiple pieces of siding and multiple holes will be drilled on each side of the house. After insulation is complete, the contractor will plug the holes in the sheathing and put back the pieces of siding. Siding may be damaged during removal. Depending on damage, the piece of siding may be repaired or replaced. If repaired, the contractor will try to match the paint as closely as they are able but the area will probably be visible. If replaced, the replacement siding may not be an exact match. This may be due in part due to the weathering of surfaces. The contractor performing the work is not responsible for an exact match of my siding.

Method C: Exterior wall blow, vinyl siding, then drill holes

The contractor will remove portions of the vinyl siding on my home. A minimum of two strips along top and bottom of exterior walls will be removed. The contractor will then blow insulation into the walls. Siding may be damaged during removal. Depending on damage, the piece of siding may be repaired or replaced. If repaired, the contractor will try to match the paint as closely as they are able but the area will probably be visible. If replaced, the replacement siding may not be an exact match. This may be due in part due to the weathering of surfaces. The contractor performing the work is not responsible for an exact match of my siding. The removal of the vinyl siding may void or complicate any existing warranty or insurance held by me, the homeowner/property owner.

Method D: Interior wall blow, drill holes

My walls will be insulated from the inside of my home. All objects must be removed from my walls and the interior of my home will be covered with plastic. The contractor will drill holes into my interior walls and blow insulation into the cavity. There will be multiple holes drilled in each wall of my house. The contractor will then fill each hole by driving a wooden plug with glue into the hole until the plug is slightly recessed. The contractor will fill the plug area with putty and then sand and smooth the area of the plug. The plug area may still be visible. The contractor is not responsible for painting the plug area. There may be residue from the drilling and insulating of my home after the plastic is removed. The contractor will provide clean up but may not be able to remove all residues, which may show at later date. The contractor is responsible

Method E: No wall insulation to be installed

Landscaping: Due to lead safe work practices and the insulation process, a ten-foot perimeter of a six-mil polyethylene barrier will be placed around the perimeter of your house to protect the ground water and residents from possible lead paint dust and debris.

During this process some plants, shrubs, and flowers may be damaged from the job preparation.

Property Access: I agree to provide access in my home/rental property to Seattle Office of Housing staff and contractors and crew members hired by the Seattle Office of Housing for purposes of energy auditing, testing, installing weatherization measures and follow up inspection(s).

Release: I hereby release and hold harmless the City of Seattle and its employees from any liability in connection with the work. I also hereby release and hold harmless the State of Washington, the Washington State Department of Commerce and its employees.

City of Seattle Inspections: In some cases, the work performed will need to be inspected by a City employee from another department outside the Seattle Office of Housing. For example, an electrical inspector from the Seattle Department of Construction and Inspections may need to inspect electrical work performed. I am responsible for scheduling appointments with City inspectors, and to be present for those inspections. Any fees incurred due to my absence may be charged to me.

Office of Housing Inspections: All weatherization work will be inspected upon completion by Office of Housing staff.

Warranty: All work will carry the contractor's one-year warranty. If I have concerns or questions after the work has been completed I need to contact the contractor directly.

SECTION 2: HEALTH AND SAFETY INFORMATION

Indoor air quality, asbestos, mold and moisture and lead: I have received Environmental Protection Agency (EPA) guides on indoor air quality, asbestos, mold & moisture and "A Citizen's Guide to Radon".

Lead Based Paint: Houses built prior to 1978 may contain lead-based paint. We have discussed the potential the potential hazards of lead-based paint if applicable to your home, and I have received the documents "Lead Warning" and "Renovate Right."



Carbon monoxide and smoke inhalation: I understand the dangers of carbon monoxide and smoke inhalation. I have received information on the proper operation of carbon monoxide and/or smoke detectors(s) if installed. It is my responsibility to keep them in working order. I hold the City of Seattle and its employees harmless in the event the alarm fails to operate properly.

Fireplace and woodstoves: I have been informed and understand that that my fireplace or woodstove may leak combustion gases. I understand I should not operate exhaust fans when the fireplace or woodstove is in use, and that I should open a fresh air vent or window.

By signing below, I acknowledge and authorize everything stated above:

Signature of homeowner/property owner	Printed name	Date

Signature of tenant	Printed name	Date

Property Address (Street Name, City and Zip code)

Accepted by the City of Seattle through:

Property Rehab Specialist Signature	Printed name	Date

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Client Informed Consent Form

Client Name:	Auditor Name:
LA Project #:	Date:

Upon request, provide copy of this signed form to Client. If rental, also provide information to Owner.

Mold Assessment and Release Section:

Local Agency	<input type="checkbox"/> No mold growth identified during the energy audit. <input type="checkbox"/> During energy audit, our Auditor identified mold growth in the following areas of your home: <input type="checkbox"/> Living Rm <input type="checkbox"/> Kitchen <input type="checkbox"/> Bth Rm(s) <input type="checkbox"/> Bed Rm(s) <input type="checkbox"/> Attic <input type="checkbox"/> Crawl/Bsmt <input type="checkbox"/> Combustion <input type="checkbox"/> Other____ <p>The U.S. Department of Energy (DOE) generally does not allow Wx agencies to mitigate mold problems, however, some Wx actions associated with cost-effective energy saving measures may help to reduce moisture problems. The Local Wx Agency plans to install the following measures that may help resolve existing moisture problems. The work proposed should not promote new mold growth:</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p>
Client	<p>Mold can be a problem in any home where there is an excessive amount of moisture or humidity present. An assessment of your home included a visual check for mold. This is not a mold inspection and the person making this assessment is not a certified mold inspector. Mold testing and identification of specific molds is beyond the scope of this Weatherization (Wx) program.</p> <p>Moisture disclaimer: By signing below, I acknowledge</p> <input type="checkbox"/> I received information concerning moisture & mold conditions in my home prior to Wx work. <input type="checkbox"/> I received Environmental Protection Agency's (EPA): <i>A Brief Guide to Mold, Moisture and Your Home.</i> <input type="checkbox"/> I will take steps to reduce excessive moisture. <input type="checkbox"/> I agree to hold the agency harmless for any future moisture or mold problems that are not associated with the weatherization work.

Asbestos Section:

Local Agency	<input type="checkbox"/> Asbestos Containing Materials (ACM) are suspected. <input type="checkbox"/> ACMs are NOT suspected. <input type="checkbox"/> Precautions will be taken to ensure the occupants' and workers' safety during Wx: <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>ACM testing is not required. However if tests are performed, provide written asbestos test results to client.</p> <input type="checkbox"/> ACM testing will be performed and written results provided to client. <input type="checkbox"/> No ACM testing.
Client	<p>Instructions to Clients: Do not disturb suspected Asbestos Containing Materials.</p> <input type="checkbox"/> I received Environmental Protection Agency's (EPA): <i>Asbestos information</i> and <i>Protect your Family</i> links.



Lead Pre-Renovation Section: Documents Federal Lead-Based Paint Renovation, Repair, & Painting Program requirements compliance.

Local Agency	<p>Provide Client Occupant with pamphlet/link within 7 and no more than 60 days prior to work starting. If provided by mail, send certified mail with read receipt showing that date received falls within guidelines.</p> <p>Renovator Self-Certification (for tenant-occupied dwellings only): I delivered pamphlet/link, but tenant signature was not obtainable: I certify I made a good faith effort to deliver the lead-hazard information pamphlet. I further certify I provided the link (herein) or left a copy of the pamphlet on the premises.</p> <p><input type="checkbox"/> Occupant declined to sign the confirmation of receipt.</p> <p><input type="checkbox"/> Occupant was unavailable to sign the confirmation of receipt.</p>
Client	<p><i>The Lead-Safe Certified Guide to Renovate Right</i> is a lead-hazard information pamphlet informing me of the potential risk of the lead-hazard exposure from renovation activity to be performed in my dwelling unit. I received this information before work began.</p> <p><input type="checkbox"/> I received Environmental Protection Agency's (EPA): <i>The Lead-Safe Certified Guide to Renovate Right</i>.</p>

Radon Section:

LA	<p><input type="checkbox"/> Zones 1 and 2 only: <i>Precautionary Measures installed as part of Wx:</i></p> <p><input type="checkbox"/> Exposed dirt floors covered/sealed <input type="checkbox"/> Floor/foundation penetrations sealed <input type="checkbox"/> Open sump pit capped</p> <p><input type="checkbox"/> Crawl space venting inspected/improved <input type="checkbox"/> Bsmt isolated (air seal) from living space <input type="checkbox"/> Other: _____</p> <p><input type="checkbox"/> Zone 3</p>
Client	<p>Weatherization achieves energy and cost savings and improved comfort, health, and safety of homes. According to the DOE sponsored study, "<i>Weatherization and Indoor Air Quality: Measured Impacts in Single-family Homes under the Weatherization Assistance Program,</i>" a small risk of increased radon levels in homes may occur when building air tightness levels are improved. Other evidence suggests that continuous mechanical ventilation reduces radon levels in homes, counteracting any radon increase due to improved building air tightness.</p> <p><input type="checkbox"/> I am aware Weatherization may result in increased radon levels, and mechanical ventilation may counteract those increases.</p> <p><input type="checkbox"/> I have received Environmental Protection Agency's (EPA): <i>A Citizen's Guide to Radon</i></p> <p><input type="checkbox"/> The Local Agency representative discussed radon related risks.</p> <p><input type="checkbox"/> I choose to go forward with Wx, and accept all radon risks of injury or damages.</p>

More Information:

- I received a link/copy the ***Client Education Guide***
 - I received a copy of the ***Client Health & Safety Observed Conditions (Observed Conditions)*** form.
 - Links provided on ***Observed Conditions*** form suffice. In addition to links, I request paper pamphlets.
- I have carefully read this ***Client Informed Consent*** form and have signed of my own free will.

Occupant Name (Printed)

Occupant Signature

Date

Auditor (or Local Agency Representative) Name (Printed)

Auditor (or LA Rep) Signature

Date



Client Health & Safety Observed Conditions

Client Name:	Auditor Name:
LA Project #:	Date:

Provide Client with a copy of this form. If rental, also provide information to Owner.

GENERAL INFORMATION: **Client Education Guide:** <http://www.commerce.wa.gov/wp-content/uploads/2019/07/Client-Education-Guide.pdf>

FOR YOUR HOME: Observed Potential Health & Safety Risk:	Yes	No	Describe/Comments/Actions Needed:
Health Concerns: Any obvious health conditions Wx materials might aggravate? (i.e. drywall, insulation, fiberglass, cellulose, duct mastic)	<input type="checkbox"/>	<input type="checkbox"/>	
Biological Hazards (including Mold and Moisture): (PSS #6) Any mold/moisture, sewage, or other biological hazard concerns present? EPA Booklet, <i>A Brief Guide of Mold, Moisture, and Your Home:</i> https://www.epa.gov/sites/production/files/2016-10/documents/moldguide12.pdf	<input type="checkbox"/>	<input type="checkbox"/>	
Building Structures & Roofing Issues: (PSS #24) Any obvious structural problems? (i.e. walls, ceiling/roof & floors)	<input type="checkbox"/>	<input type="checkbox"/>	
Asbestos Risks: (PSS #22) Do you suspect the presence of asbestos? (i.e. ceilings, walls, floors, exterior siding, vermiculite insulation, pipe/furnace coverings) More Asbestos Information: https://www.epa.gov/asbestos and https://www.epa.gov/asbestos/protect-your-family#identify	<input type="checkbox"/>	<input type="checkbox"/>	If yes, instruct client: Do NOT disturb suspected ACM.
Drainage Issues: (PSS #1) Any obvious signs of drainage issues? (i.e. pooled water, water damage, or other issues)	<input type="checkbox"/>	<input type="checkbox"/>	
Electrical Issues: Any obvious electrical issues? (i.e. overloaded circuits or outlets, outages, exposed wires)	<input type="checkbox"/>	<input type="checkbox"/>	
Fire Hazards: Any obvious, possible fire hazards in or around home? (i.e. chemical, electrical, or other)	<input type="checkbox"/>	<input type="checkbox"/>	
VOCs/Chemical Air Pollutants: (PSS #14) Do you suspect presence of Volatile Organic Compounds (VOC) or other air pollutants in the home?	<input type="checkbox"/>	<input type="checkbox"/>	
Injury Prevention Issues: Any obvious hazards that should be noted? (i.e. broken stairs, fall hazards, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	
Lead Based Paint: (PSS #20) (take pictures) Is flaking or peeling paint visible around home? If so, does it likely contain lead? Is home pre-1978? EPA Booklet, <i>The Lead-Safe Certified Guide to Renovate Right:</i> https://www.epa.gov/sites/production/files/documents/rr_english_color_book.pdf	<input type="checkbox"/>	<input type="checkbox"/>	
Pest Control Issues: (PSS #18) (take pictures) Any pests or infestations present in or around home?	<input type="checkbox"/>	<input type="checkbox"/>	
Fuel Leaks: Any fuel leaks present in or around home?	<input type="checkbox"/>	<input type="checkbox"/>	
Other: Any other noted health, safety, or specific concerns present?	<input type="checkbox"/>	<input type="checkbox"/>	

Radon Information: EPA Booklet, *A Citizen's Guide to Radon:* <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100F7ZO.PDF?Dockkey=P100F7ZO.PDF>

Weatherization and Indoor Air Quality: *Measured Impacts in Single-family Homes under the Weatherization Assistance Program:* https://weatherization.ornl.gov/wp-content/uploads/pdf/WAPRetroEvalFinalReports/ORNLTM-2014_170.pdf



Pollution Source Survey

Client Name:	Auditor Name:
LA Project #:	Date:

Local agencies shall use Pollution Source Survey results to document justification for installation of a particular health or safety measure in a project with a note in the Scope of Work. **Example:** Note in Scope of Work Plumbing Repair measure – PSS Condition #3 *Plumbing leaks inside the home or in the crawl space, with a Rating 3 = Current Major Leak.*

Keep It Dry:

1. Seasonal water pooling in crawlspace?

<input type="checkbox"/> 0=N/A or completely dry	Notes: <i>Auto fill onto Client H&S Observed Conditions – Drainage Issues</i>
<input type="checkbox"/> 1=limited moisture	
<input type="checkbox"/> 2=some moisture	
<input type="checkbox"/> 3=major pooling	

2. Vapor barrier present in the crawlspace?

<input type="checkbox"/> 0=N/A or good condition	Notes:
<input type="checkbox"/> 1=yes w/ some gaps	
<input type="checkbox"/> 2=yes but poor condition	
<input type="checkbox"/> 3=none	

3. Plumbing leaks inside the home or in the crawlspace?

<input type="checkbox"/> 0=none/completely dry	Notes:
<input type="checkbox"/> 1=sign of past leak	
<input type="checkbox"/> 2=current minor leak	
<input type="checkbox"/> 3=current major leak	

4. Noticeable leaks or water staining on ceilings or walls?

<input type="checkbox"/> 0=no signs	Notes:
<input type="checkbox"/> 1=minor stain	
<input type="checkbox"/> 2=multiple stains	
<input type="checkbox"/> 3=major damage	

5. Condensation/moisture noticeable on windows or surfaces?

<input type="checkbox"/> 0=some, at times	Notes:
<input type="checkbox"/> 1=frequent moisture	
<input type="checkbox"/> 2=heavy/problematic	
<input type="checkbox"/> 3=major/extensive	

6. Visible mold in the home?

<input type="checkbox"/> 0=none visible	Notes: <i>Auto fill onto Client H&S Observed Conditions – Biological Hazards</i>
<input type="checkbox"/> 1=localized/small area	
<input type="checkbox"/> 2=multiple locations	
<input type="checkbox"/> 3=major/extensive	



7. Unusually high relative humidity (RH) levels?

<input type="checkbox"/> 0=<50% RH	Notes:
<input type="checkbox"/> 1=50-60% RH	
<input type="checkbox"/> 2=60-70% RH	
<input type="checkbox"/> 3=>70% RH	

8. Extra sources of moisture in the home? (e.g. unvented dryer, fish tanks, many houseplants)

<input type="checkbox"/> 0=none	Notes:
<input type="checkbox"/> 1=some	
<input type="checkbox"/> 2=several	
<input type="checkbox"/> 3=excessive	

Keep It Clean:

9. Condition of carpet: dirty, worn, water soaked?

<input type="checkbox"/> 0=no carpet/like new	Notes:
<input type="checkbox"/> 1=decent condition	
<input type="checkbox"/> 2=some problems	
<input type="checkbox"/> 3=old/dirty/worn	

10. Warm blooded pets (cats, dogs, hamsters, birds, etc.) inside the home?

<input type="checkbox"/> 0=no pets	Notes:
<input type="checkbox"/> 1=limited #/ lived -in	
<input type="checkbox"/> 2=some throughout	
<input type="checkbox"/> 3=many throughout	

11. Housekeeping problems? Cluttered or unsanitary?

<input type="checkbox"/> 0=clean/uncluttered	Notes:
<input type="checkbox"/> 1=normal/lived-in	
<input type="checkbox"/> 2=poor housekeeping	
<input type="checkbox"/> 3=major issues	

12. Condition of filters used in heating system?

<input type="checkbox"/> 0=N/A or new	Notes:
<input type="checkbox"/> 1=decent condition	
<input type="checkbox"/> 2=change soon	
<input type="checkbox"/> 3=missing or clogged	

Keep It Safe:

13. Do cars park in attached garage, with pollution pathways into the home?

<input type="checkbox"/> 0=N/A (no attached)	Notes:
<input type="checkbox"/> 1=limited pathways	
<input type="checkbox"/> 2=some pathways	
<input type="checkbox"/> 3=major pathways	



14. Paints, solvents, thinners, pesticides stored in home?

<input type="checkbox"/> 0=none in home	Notes: <i>Auto fill onto Client H&S Observed Conditions – VOC/Chemical Air Pollutants</i>
<input type="checkbox"/> 1=few	
<input type="checkbox"/> 2=several	
<input type="checkbox"/> 3=excessive	

15. Functioning carbon monoxide detectors and smoke alarms?

<input type="checkbox"/> 0=all installed/functioning	Notes:
<input type="checkbox"/> 1=few, but working	
<input type="checkbox"/> 2=inadequate/old	
<input type="checkbox"/> 3=none functioning	

Keep it Well-Ventilated:

16. Combustion appliances properly vented?

<input type="checkbox"/> 0=N/A or well vented	Notes:
<input type="checkbox"/> 1=minor problem	
<input type="checkbox"/> 2=significant problem	
<input type="checkbox"/> 3=not vented outside	

17. Bath and kitchen fans properly functioning?

<input type="checkbox"/> 0=excellent ventilation	Notes:
<input type="checkbox"/> 1=adequate	
<input type="checkbox"/> 2=inadequate	
<input type="checkbox"/> 3=no functioning fans	

Keep It Pest Free:

18. Are there signs of rodents, cockroaches, or other pests in the house, attic or crawl?

<input type="checkbox"/> 0=no signs	Notes: <i>Auto fill onto Client H&S Observed Conditions – Pest Control Issues</i>
<input type="checkbox"/> 1=few signs	
<input type="checkbox"/> 2=several signs	
<input type="checkbox"/> 3=active	

19. Insecticides or rodenticides used in the home or ductwork?

<input type="checkbox"/> 0=none used	Notes:
<input type="checkbox"/> 1=minimal use	
<input type="checkbox"/> 2=multiple locations	
<input type="checkbox"/> 3=used throughout	

Keep it Contaminant Free:

20. Paint peeling or flaking on floors, walls, ceilings (in pre-1978 home)?

<input type="checkbox"/> 0=none	Notes: <i>Auto fill onto Client H&S Observed Conditions – Lead Based Paint</i>
<input type="checkbox"/> 1=localized	
<input type="checkbox"/> 2=multiple locations	
<input type="checkbox"/> 3=widespread	



21. Environmental tobacco smoke (ETS) in the home?

<input type="checkbox"/> 0=N/A (no smoking)	Notes:
<input type="checkbox"/> 1=signs of ETS	
<input type="checkbox"/> 2=strong ETS odor	
<input type="checkbox"/> 3=excessive ETS	

22. Vermiculite or other presumed asbestos containing material (PACM) in the home?

<input type="checkbox"/> 0=no PACM	Notes: <i>Auto fill onto Client H&S Observed Conditions – Asbestos Risk</i>
<input type="checkbox"/> 1=good condition	
<input type="checkbox"/> 2=no immediate risk	
<input type="checkbox"/> 3=friable/damaged	

23. Unusually strong odors – chemical cleaners, air fresheners, mold/mildew, etc. in the home?

<input type="checkbox"/> 0=none	Notes:
<input type="checkbox"/> 1=moderate scents	
<input type="checkbox"/> 2=strong odors	
<input type="checkbox"/> 3=extreme odors	

Keep it Well Maintained:

24. Slip, trip, or fall hazards due to structure?

<input type="checkbox"/> 0=none	Notes: <i>Auto fill onto Client H&S Observed Conditions – Building Structure & Roofing</i>
<input type="checkbox"/> 1=small hazard	
<input type="checkbox"/> 2=multiple hazards	
<input type="checkbox"/> 3=major hazards	

Thermally controlled:

25. Temperature unusually warm or cold in the home?

<input type="checkbox"/> 0=normal (~60-70F)	Notes:
<input type="checkbox"/> 1=somewhat unusual	
<input type="checkbox"/> 2=very cold or hot	
<input type="checkbox"/> 3=excessive/danger	

Reference Guide to Pollution Source Survey Home Rating Scale

Local agencies shall document justification for installation of a particular health or safety measure in a project with a note in the Scope of Work.

Example: Condition #3 - **Plumbing Leak inside the home or in the crawl space**, with a **Rating 3 = Current Major Leak** is noted in Plumbing Repairs measure.

Keep it Dry

1. Seasonal water pooling in crawl space?

- 0 = **N/A totally dry:** Dry vapor barrier, dry soil or concrete/rocks, no wood moisture detectable.
- 1 = **Limited moisture:** Moist soil or concrete, visual moisture on wood, no visual standing water.
- 2 = **Some moisture:** Above, less than 4sqft of visual pooling of water on soil or concrete/rocks limited to one location, no water pooled above vapor barrier, moist wood evident.
- 3 = **Major pooling:** Standing water pooled in crawl over an area greater than 4sqft, multiple pools of standing water above and under vapor barrier. Or crawl completely covered in more than 1" of standing water.

2. Is there a vapor barrier present in the crawl?

- 0 = **N/A or yes, in good condition:** 100% of the ground surface is covered with 6-mil polyethylene film. The seams are overlapped 6 inches. The polyethylene film is stapled in place.
- 1 = **Yes with some gaps:** 75% of the ground surface is covered with 6-mil polyethylene film. The seams are not overlapped and less than 6 inches of gap exist between one row of film and another. Less than 6 inches of visible soil or concrete between sheets.
- 2 = **Yes, but in poor condition:** Less than 75% of the ground surface is covered with some type of polyethylene film. The seams are not overlapped and gap greater than 6 inches exist between rows of film. Visible soil or concrete/rocks in area greater than 1200 4sq ft.
- 3 = **None:** No barrier exist between concrete/rocks and crawl space. Less than 50% of crawl covered.

3. Plumbing leaks inside the home or in the crawl space?

- 0 = **None/totally dry:** No stains, no water damage, no water detected.
- 1 = **Sign of past leak:** Evidence of water stain (such as darkened area) over a small area of floor (less than 4 square feet). Water not seen.
- 2 = **Current minor leak:** Leak or drip contained to one area, does not adversely affect the area around it. No water pooled.
- 3 = **Current major leak:** There is a steady leak adversely affecting the area around it. Pooling water around leaking plumbing and/or steadily dripping into the crawl.

4. Noticeable leaks or water staining on ceiling or walls?

0 = **No signs:** No water stains/no damage

1 = **Minor stain:** Ceiling or walls have water damage limited to less than 2 square feet of water damage or water staining (such as darkened area). No deteriorated paint or soft building materials.

2 = **Multiple stains:** Ceiling or walls have water damage/staining/leaks limited to 2 square feet of water damage or water or in 2 or more locations. Deteriorated paint but no visible bulging, buckling, sagging or soft building materials.

3 = **Major damage:** Ceiling or walls have water damage or leaks greater than 2 square feet for each instance over a total area greater than 4 square feet. Deteriorated paint. Visible bulging, buckling, sagging, lack of horizontal alignment or holes in building materials.

5. Is condensation/moisture noticeable on windows or other surfaces?

0 = **None observed:** Resident did not report and the observer did not notice condensation on windows or other surfaces

1 = **Some at times:** Condensation visible limited to fewer than 4 surfaces at specific times of day. No water pooling, no mold or water damage visible.

2 = **Frequent moisture:** Condensation visible throughout the day on more than 4 windows or surfaces. No water pooled around surface. Visible mold on same surfaces. No water damage visible on adjoining wood and/or drywall.

3 = **Heavy/problematic:** Condensation visible throughout the day on more than 4 windows or surfaces. Water pooled around the surface. Visible mold on surface and/or adjoining drywall or wood. Visible water damage to window surfaces and adjoining wood and/or drywall.

6. Visible mold in the home?

0 = **None visible:** No visible mold or musty odor

1 = **Localized/small area:** Visible mold like substance on 1-2 surfaces limited to area less than 1 square foot. Or no visible mold, but musty odor present.

2 = **Multiple locations:** More than 2 surfaces in the home have visible mold like substance in area limited to less than 2 square feet or strong musty odor.

3 = **Major/extensive:** More than 2 surfaces in the home have visible mold like substance in an area greater than 2 square feet or offensive/excessive musty odor.

7. Unusually high relative humidity (RH) levels?

Use hygrometer and note highest RH level during the home visit.

8. Extra sources of moisture (e.g. unvented dryer, fish tanks, many houseplants) in the home?

0 = **None:** No potential extra sources of moisture visible or detected.

1 = **Some:** 1-2 small sources of moisture visible or detected.

2 = **Several:** 2-4 small extra sources of moisture visible or detected.

3 = **Excessive:** More than 4 small sources of moisture visible or detected or 1 large source of moisture.

Keep it Clean

9. Condition of carpet: dirty, worn, water soaked?

- 0 = **No carpet/like new:** No carpet visible in home. Low in perfect condition and clean.
- 1 = **Decent condition:** Less than 10% of the carpet has stains, surface burns, shallow cuts, small holes or tears. The flooring is fully functional and there is no safety hazard.
- 2 = **Some problems:** Greater than 10% but less than 50% of the carpet has stains, visible dirt, surface burns, shallow cuts, small holes or tears. The flooring is fully functional and there is no safety hazard.
- 3 = **Old/dirty/worn:** More than 50% of the carpet is stained, dirty or damaged. Or damage to the carpet has exposed underlying material or sub floor visible.

10. Warm-blooded pets (cats, dogs, hamsters, birds, etc.) inside home?

- 0 = **None:** No pets. Pets present, but not allowed inside the home.
- 1 = **Limited #/location-one:** 1 pet allowed in the home. Pet is limited to one room or less than 10% of the home. Not allowed on furniture.
- 2 = **Somewhat/throughout:** 1-4 pets allowed in the home. Pets are allowed in most of the home, not to exceed 60%
- 3 = **Many/throughout:** 1-4 or more pets in the home. Pets are allowed in 100% of the home including on furniture.

11. Housekeeping problems? Cluttered or unsanitary?

- 0 = **Clean/uncluttered:** All doors and stairways of the home are accessible. Normal household activity. Home has normal, healthy housekeeping and safe and healthy sanitation.
- 1 = **Normal/lived in:** All doors and stairways of the home are accessible. Normal household activity. Clutter is not excessive. Home has normal, healthy housekeeping and safe and healthy sanitation.
- 2 = **Poor housekeeping:** Visible clutter outdoors, including items normally stored indoors, such as televisions and sofas. Excessive dust, dirty bed linens and no recent vacuuming or sweeping. Heavily soiled food preparation areas and full or odorous garbage cans. Dirty laundry exceeds three full hampers per bedroom. Strong unpleasant odors throughout the house.
- 3 = **Major issues:** Indoor clutter leads to narrow hall and stair pathways; one bedroom or bathroom isn't fully usable. Rooms are unusable. Rotting food on counters and no clean dishes or utensils in kitchen.

12. If filters used in the heating system, what is the condition of the filter (s)?

- 0 = **N/A or perfect condition:** Heating system does not require furnace filter. Baseboards, radiant heat, electric space heater, etc. Brand new, well-fitted filter installed. >1month old.
- 1 = **Decent condition:** Filter older than 1 month but less than 3 months old. Original filter color. Little visible dust.
- 2 = **Change soon:** Filter older than 3 months. Filter is dark gray color. Some light visible through filter.
- 3 = **Missing or clogged:** Heating system does require filter but none present. Filter is dark gray or black in color and clogged. No light visible through filter.

Keep it Safe

13. Do cars park in attached garage, with pollution pathways into home?

- 0 = **N/A (no attached garage):** No attached garage present. No garage present that shares a wall with the home. No cars.
- 1 = **Limited pathways:** Attached garage present. Car(s) parked in attached garage. Good seal on door between the garage and the living space. No other likely air pathways between garage and home.
- 2 = **Some pathways:** Attached garage present. Car(s) parked in attached garage. Poor seal on door between the garage and the living space. Other possible air pathways between garage and home.
- 3 = **Major pathways:** Attached garage present. Car(s) parked in attached garage. Very poor/missing seal on door between the garage and the living space. Major obvious air pathways (holes in door, wall, etc.) between garage and home.

14. Paints, solvents, thinners, pesticides stored in home?

- 0 = **None in home:** No paints, solvents, thinners, pesticides stored in the home.
- 1 = **Few:** 1-2 containers of paints, solvents, thinners and/or pesticides stored in the home. Faint chemical scent.
- 2 = **Severals:** 2-4 containers of paints, solvents, thinners and/or pesticides stored in the home. Moderate chemical scent.
- 3 = **Excessive:** More than 4 containers of paints, solvents, thinners and/or pesticides stored in the home. At least one container of toxic substance stored in a place that young children could easily access. Strong chemical scent.

15. Functioning carbon monoxide detectors and smoke alarms?

- 0 = **All installed/function:** At least one smoke detector and CO detector on every level of the home, outside each bedroom and in a common living area. All are functional. Both smoke detector and CO detectors in common area powered by main electrical supply with battery back-up. Detectors less than 5 years old.
- 1 = **Few, but working:** Smoke detectors and CO detectors present and working on every level of the home, but not outside each bedroom. Both smoke detector and CO detector in common area powered by main electrical supply with battery back-up.
- 2 = **Inadequate/old:** Smoke detectors and CO detectors present but not on every level of the home, not outside each bedroom. Both smoke detector and CO detector in common area powered by main electrical supply but with no battery back-up. Detectors are older than the manufacturer's expiration date.
- 3 = **None/none functioning:** No CO detector or smoke detector present in home. Smoke detector or CO detector in home but when tested detector does not work as designed.

Keep it Well-Ventilated

16. Are combustion appliances properly vented?

- 0 = **N/A or well vented:** Electric appliances with no exhaust ventilation required. Combustion appliances exhaust vents are not misaligned, damaged, blocked or disconnected.
- 1 = **Minor problem:** Combustion appliances exhaust vents are not misaligned, damaged, blocked or disconnected. Evidence of rust and corrosion on flue pipe that could cause improper function.
- 2 = **Significant problem:** Misalignment of exhaust system on a combustion unit that causes improper or dangerous venting of gases. Evidence of rust and corrosion that could cause improper flue pipe or function. Evidence of blockage or disconnection.
- 3 = **Not vented outside:** No exhaust system present. Completely unvented combustion appliance. Reverse airflow in chimney observed. Major exhaust blockage or disconnection.

17. Are bath fans and kitchen fans functioning?

- 0 = **Excellent ventilation:** Both bath fan and kitchen fan are functioning and meet ventilation standards.
- 1 = **Adequate ventilation:** Both bath fan and kitchen fan are functioning but at least one has limited airflow.
- 2 = **Inadequate ventilation:** Both bath fan and kitchen fan are functioning but together they do not meet ventilation standards. Partial or full blockage or accumulation of dirt threatens the free passage of air so that fan does not function as designed. Functioning bath fan or functioning kitchen fan, but not both. At least one exhaust fan is not functioning.
- 3 = **No functioning fans:** Neither bath fan or kitchen fan are functioning. No bath fan or kitchen fan.

Keep it Pest-free

18. Are there signs of rodents, cockroaches or other pests in the house, attic or crawl?

- 0 = **No signs:** No roaches or roach evidence present, no rat/mice/droppings/holes, no other insects or vermin seen
- 1 = **Few signs:** Roach frass, rodent dropping or chewed holes, evidence of other insect or vermin in a single, contained area of the home.
- 2 = **Several signs:** One or more live roaches/rats/mice found in crawl but none found in house or attic. Evidence of frass or droppings in 2 or more rooms.
- 3 = **Active infestation:** Multiple roaches/rats/mice found in house/attic/crawl. Frass or droppings are thick or evident throughout the home

19. Are insecticides or rodenticides used in home or ductwork?

- 0 = **None used**
- 1 = **Minimal use:** Insecticides or rodenticides were used but not in the past 6 months. None used in the home or ductwork.
- 2 = **Multiple locations:** Insecticides or rodenticides were used in the crawl, attic or outside areas but not inside the living space of the home (including ductwork)
- 3 = **Used throughout:** Insecticides or rodenticides used in the crawl, attic, outside area and inside the living space of the home (including ductwork)

Keep it Contaminant-free

20. Paint peeling or flaking on floors, windows, walls, or ceilings?

- 0 = **None:** No evidence of paint peeling or flaking on floors windows, walls, or ceilings.
- 1 = **Localized:** Evidence of paint flaking on 1 area less than 1 square foot on a wall, ceiling, floor or windowsill.
- 2 = **Multiple locations:** Evidence of paint flaking on 2 or more areas less than a total of 2 square feet on a wall, ceiling, floor and/or windowsill.
- 3 = **Widespread:** Evidence of paint flaking on 3+ areas equal to or greater than 2 square feet on a wall, ceiling, floor and/or windowsill.

21. Environmental tobacco smoke (ETS) in the home?

- 0 = **N/A, none:** No evidence of ETS in home or in adjoining units (if applicable).
- 1 = **Signs of ETS:** Evidence of lingering tobacco smoke odor including tobacco smoke odor evident only when dust is disturbed.
- 2 = **Strong ETS:** Tobacco smoke odor noticed upon entering the home. Stained walls, curled wallpaper.
- 3 = **Excessive ETS:** Active smoking in home. Tobacco smoke odor noticed upon entering the home, on the body of residents. Lingers when ventilation fans activated or when windows/doors opened.

22. Vermiculite or other PACM (presumed asbestos containing material) present in the home?

- 0 = **No PACM:** Newer home, older home known not to have PACM hazards
- 1 = **Present, but in good condition:** Older home known to have PACM, material in good condition. Material in area of home with limited access and not in danger of being torn, disturbed or water damaged. Materials have been sealed or enclosed.
- 2 = **No immediate risk:** Older home known to have PACM, material in OK condition. Material in area of home with easy access and in danger of being torn, disturbed or water damaged. Materials have not been treated or enclosed but could potentially be treated or preserved.
- 3 = **Friable/damaged:** Older home known to have PACM. Material that has been damaged over time, crumbles easily if handled, or that has been sawed, scraped, or sanded into a powder. Material is in area of home with easy access and has been torn, disturbed or water damaged. Materials have not been treated or enclosed but given the state could not be easily done.

23. Unusually strong odors-like chemical cleaners, air fresheners, mold/mildew, etc. in the home.

- 0 = **None:** No odors noticed in home
- 1 = **Moderate scents:** No strong scents noticed upon entering the home. Any odor noticed quickly dissipate when ventilated.
- 2 = **Strong odors:** Strong odors noticed upon entering the home. Odors dissipate when ventilated but reappear when doors/windows are closed or when fans are turned off.
- 3 = **Extreme odors:** Strong odors noticed upon entering the home. Odors do not dissipate when ventilated.

Keep it Well-Maintained

24. Slip, trip or fall hazards due to structure?

- 0 = **None:** No slip/trip hazards
- 1 = **Small hazard:** Slip hazard limited to one room or area of home
- 2 = **Multiple hazards:** Slip trip or fall hazards in 1-2 rooms or areas of the home
- 3 = **Major hazards:** Slip trip or fall hazards in 3+ rooms or areas of the home or an extraordinary hazard, like the potential for a long fall.

Thermally Controlled

25. Temperature unusually warm or cold in the home?

- 0 = **Normal (~60-70F):** Not unusually warm or cold in the home
- 1 = **Somewhat unusual:** Temperature in home is greater than 70F but less than 75F. Temperature somewhat unusually cold, less than 60F but greater than 55F.
- 2 = **Very cold or hot:** Temperature in home is very hot greater than 75F but less than 85F. Temperature is very cold, less than 55F but greater than 50F.
- 3 = **Excessive/danger:** Temperatures in home is very hot greater than 85F. Temperature is very cold, less than 50F - home is uninhabitable.



WEATHERIZATION PLUS HEALTH PROGRAM

Client Self Declaration of Asthmatic Medical Condition

Print Name

Servicing property address

I, _____, do hereby declare that I have asthma.

CLIENT ACKNOWLEDGEMENT: I certify that the information contained above is complete and accurate to the best of my knowledge. If needed, Office of Housing may request that I provide a referral by a Medical Professional or verification that I have received respiratory health services such as emergency room documentation, DSHS services documentation or other documentation of asthma.

I agree Yes No

If needed, King County Public Health may contact me for home visits from a Community Health Worker to help manage asthma and assess homes of asthma triggers.

Additionally, I give City of Seattle permission to share my information with King County Public Health.

Homeowner (print name)

Signature

Date

Check if signing for a minor under the age of 18 with the prescribed medication.

Office of Housing PRS

Signature

Date



WASHINGTON STATE LOW-INCOME WEATHERIZATION PROGRAM

Client Education Guide

July 1, 2019 Version

This Client Education Guide will provide general weatherization information to assist clients in saving energy, improving health and safety and providing links to more resources



Department of Commerce

Local Weatherization Agency Contact Information

Local Agency Name: _____

Contact Person: _____

Phone Number: _____

Email Address: _____

Local Weatherization Agencies in Washington State (by County)

County	Local Weatherization Agency
Adams	Opportunities Industrialization Center of Washington
Asotin	Community Action Partnership
Benton	Benton-Franklin Community Action Committee
Chelan	Chelan-Douglas Community Action Council
Clallam	Olympic Community Action Programs
Clark	Clark County Department of Community Services
Columbia	Blue Mountain Action Council
Cowlitz	Lower Columbia Community Action Council
Douglas	Chelan-Douglas Community Action Council
Ferry	Rural Resources Community Action
Franklin	Benton-Franklin Community Action Committee
Garfield	Blue Mountain Action Council
Grant	Opportunities Industrialization Center of Washington
Grays Harbor	Coastal Community Action Program
Island	Opportunity Council
Jefferson	Olympic Community Action Programs
King	Seattle Office of Housing - HomeWise
King, outside Seattle	King County Housing Authority
Kitsap	Kitsap Community Resources
Kittitas	HopeSource
Klickitat	Community Action Council of Lewis, Mason, Thurston Counties
Lewis	Community Action Council of Lewis, Mason, Thurston Counties
Lincoln	Rural Resources Community Action
Mason	Community Action Council of Lewis, Mason, Thurston Counties
Okanogan	Okanogan County Community Action Council
Pacific	Coastal Community Action Program
Pend Oreille	Rural Resources Community Action
Pierce	Pierce County Human Services
Pierce, inside Tacoma	Metropolitan Development Council
San Juan	Opportunity Council
Skagit	Housing Authority of Skagit County
Skamania	Community Action Council of Lewis, Mason, Thurston Counties
Snohomish	Snohomish County Human Services Department
Spokane	Spokane Neighborhood Action Partners
Stevens	Rural Resources Community Action
Thurston	Community Action Council of Lewis, Mason, Thurston Counties
Wahkiakum	Lower Columbia Community Action Council
Walla Walla	Blue Mountain Action Council
Whatcom	Opportunity Council
Whitman	Community Action Center of Whitman County
Yakima, north of Union Gap	Opportunities Industrialization Center of Washington
Yakima, south of Union Gap	Yakima Valley Farm Workers Clinic

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What Is Weatherization?

The Weatherization Program installs improvements to both save energy and improve your indoor air quality. All elements of these installations work together as a system designed to provide better living conditions for you and your family.

To best utilize these improvements, you should understand how they work together to improve the living conditions in your home. The ceilings, walls and floors of your home separate your heated home from the unheated spaces outside; this is your envelope. When you improve the envelope of your home, you are weatherizing. Weatherizing may include adding insulation and sealing air leaks.

Having the envelope of your home properly weatherized reduces heat loss. Having to reheat a space due to the loss of heat can be costly and it is best to keep the heat you generate within the home. This results in increased comfort and energy savings. For more information, please see U.S. Department of Energy's (DOE) [Weatherize](#) website.



WEATHERIZATION WORKS

Energy Efficiency



Energy efficiency is using more efficient equipment in your home that uses less energy than the equipment that was there previously. Heating and ventilation systems that use less energy but provide increased ventilation through energy efficient fans and heating are examples of energy efficient equipment. There are many energy saving tips available either through your utility company or the [Energy Saver](#) section of the U.S. Department of Energy website.

Maintenance and Warranties

Clients will receive all manuals, operation and maintenance directions, warranties and care instructions for all installed equipment.

If you have any questions, contact the Local Weatherization Agency providing Services.

- If you have energy efficient equipment installed in your home, please make sure to follow the maintenance schedule and read your manuals.
- Keeping your equipment in good working order will reduce issues and provide longevity of the equipment.
- For the warranty period on any equipment or appliances installed in your home, please reference the owner's manuals you received.

It is important to remember that our Weatherization Program is not a maintenance program and any issues with materials or workmanship will be the responsibility of the homeowner after the first year.

There is a one-year warranty on workmanship. If you find defects or notice any issues with the workmanship within one (1) year from the date of completion of installation, report them. Please contact the contractor who performed the work or the Local Weatherization Agency. Any defects found and reported within the warranty period shall be remedied without charge and within a reasonable period-of-time.

Deferral

Unfortunately, Local Weatherization Agencies must defer some projects. If the condition of the home is beyond the scope of the Weatherization Program, funding is unavailable, or there are circumstances in the home that require repair, removal, or remedy before a project to weatherize can begin, then the project must be deferred until identified issues are resolved.

When deferral is necessary, you will receive a deferral form that clearly states the conditions requiring deferral, steps that must be taken to remedy it, and conditions that must be met in order for weatherization to begin. You will also be informed when, who, and how to contact the Local Weatherization Agency once all conditions have been met.



Combustion Safety

Appliances that use combustion gases for fuel require testing for safe operation. The Weatherization Auditor will test combustion equipment in the home to ensure it is installed properly and functioning within safety certification limits.

There are some combustion-fueled space heaters used with propane or gas. Typically, these can be unvented which means there is great risk for Carbon Monoxide poisoning and asphyxiation, as well as fire safety issues. As a rule, if we determine these are in your home we will not begin work until removed. We recommend you dispose of them.



Smoke Detector

A smoke detector is a safety device that can detect smoke, which may be an indicator of a fire.



Some battery-operated models will "chirp" when batteries are low and need replacement. This helps to ensure the detector does not stop working. If it is determined that your smoke detector is inoperable, we may replace it. We cannot replace operable detectors. If we do replace your smoke detector, please refer to the owner's manual for proper maintenance and operation.

Carbon Monoxide (CO) Monitor

A carbon monoxide detector is a safety device that detects the presence of carbon monoxide (CO) gas in order to prevent CO poisoning. CO is a colorless, odorless and tasteless gas produced by incomplete combustion. Exposure is most commonly from car exhaust, faulty heaters, fires and industrial accidents.



Symptoms of CO poisoning are nonspecific. Acute mild exposure to CO leads to headache, myalgia, dizziness and neurologic disturbance. Heavier exposure may lead to retinal hemorrhage, myocardial infarction, loss of consciousness, coma and death.

- **If you suspect poisoning, evacuate the home.**
- **In an emergency situation call 911 or call the Poison Help Hotline at 1-800-222-1222.**
- **Ventilate and air-out the home afterward.**

Furnace Filter Maintenance



Furnace filters must be the proper size and fill the hole in the furnace slot complete - otherwise they are a useless expense. Filters extend the life of your furnace by limiting the amount of dust and hair that will clog furnace mechanisms, making it work harder. To reduce cost, buy filters in bulk (a case or 12 at a time) or invest in a washable, reusable filter.

Your furnace will need service less often if you replace furnace filters every month in the heating months (winter) and every 3 months when only using the air handler in the warmer months (summer). Remember to have your furnace serviced on a regular basis.

Clogged, dirty furnace filters or filter fabric in the duct registers will reduce airflow by 50% and will not protect your health. Furnaces are designed to force a certain amount of air out into the home through the duct registers and to take the same amount of air in through the return register. If either of these airflow amounts are insufficient, the furnace will work harder, fail sooner, and will need to be replaced.

Dryer Vent Maintenance

Each year, thousands of house fires start because of dryer lint! The dryer lint trap captures only 70% of the lint in each load. The other 30% blows out through the dryer vent tube and some lint will attach to the moistened tube walls. Over time, the dryer vent tube will clog.

Once clogged, airflow is restricted in a now narrowed tube. Air will back up into the dryer body where it can deposit lint on or near the heating elements. This can cause a fire, which can then spread to the rest of the home.



Recommendations

- **Clean your dryer lint trap after each load.**
- **Snake out your dryer vent tube** at least once a year. Use a long stiff brush on a wire wand, compressed air, or a plumbers snake to gently rid the tubing of dryer lint.
 - Do not use these methods on white plastic or shiny Mylar dryer vent tubes. They are not UL listed for this use and are not safe in this application.
 - If possible, they should be replaced with rigid dryer ducting taped at the seams with UL 181 foil tape (not screws as they capture and gather lint) or flexible aluminum vent tubes.
- **Remove Moisture.** Over a half gallon of water is extracted from each dryer load. It is important the dryer is properly vented to carry moist air to the outdoors, not to the crawlspace, attic, or definitely not into the home. There is no safe way to re-capture heat from the dryer vent without spreading lint, chemical fumes from detergents & fabric softeners and moisture. Moisture can lead to mold and mildew which can give you asthma, a potentially fatal disease.

Mold and Moisture

There is always some mold everywhere. Mold can be a problem in any home where there is too much moisture or humidity present. An assessment of your home included a visual check for mold. This is not a mold inspection and the person making this assessment is not a certified mold inspector.

Exposure to damp and moldy environments may cause a variety of health effects: nasal stuffiness, throat irritation, coughing or wheezing, eye irritation, skin irritation, or infection. People with mold allergies, a compromised immune system, or chronic lung illnesses may have more severe reactions.

Landscape

Proper landscape design impacts site drainage and moisture control.

- Ensure plants are at least 6" - 1' away from home.
- Ensure watering overspray neither hits the side of home nor drains into crawlspace.
- If possible, ensure ground slopes away from home to direct water away from home.

Drainage Systems

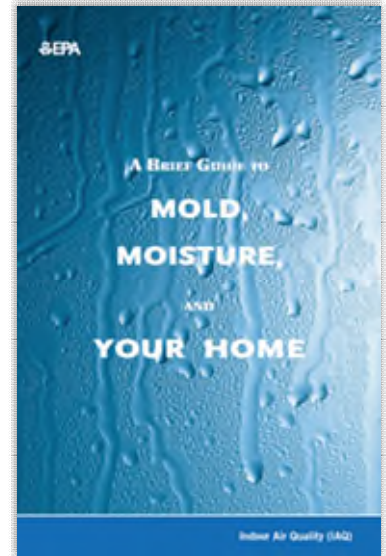
Important to clean and maintain drainage systems.

Plumbing Leaks

Repair any plumbing leaks especially on hot water lines, right away. Those drips can add up to an enormous amount of wasted energy. Just one drip per minute can waste 51 gallons per year. Moisture also creates damage and produces mold growth.

For more information for your home, please see *Client Health and Safety Observed Conditions* form.

For general Mold information, see EPA booklet, [**A Brief Guide to Mold, Moisture, and Your Home**](#)



Water Heater Temperature

The state recommends water heaters be set no higher than 120°F or the minimum setting if no specific temperature is available. While you are not required to adjust the temperature setting, be aware of the dangers, particularly to small children and elderly, of what water can do at 120°F and higher:



Temperature:	Scalding Time:
150°	2 Seconds
140°	10 Seconds
130°	30 Seconds
120°	10 Minutes

Water Use

Low Flow Showerheads and Faucet Aerators can save you money. If you take a 20-minute shower each day and have a pre-1992 showerhead and an older electric water heater, you could be spending an extra \$900 per year in energy bills to heat that hot water. Newer faucets and showerheads reduce the flow of water while they increase the water pressure, thereby reducing the amount of water that the water heater needs to heat.

Ventilation and Indoor Air Quality

Ventilation systems are designed to remove excess moisture from the indoor air, exhaust stale and stagnant air and increase airflow throughout the home. We will evaluate your home to see if there is the need for a new whole-house fan. These fans operate with very little power and increase the amount of fresh air in your home.



Fans Installed (Whole-House, Bath, or Kitchen)

If the Weatherization Program installs a fan in your home, the Local Agency will provide you with information on function, use and maintenance of ventilation system and components.

Your new fan may have one of many possible controls

- Manual on-off switch
- Humidity sensor
 - When you take a shower, the fan will come on automatically to remove moisture and will continue to run for a specified period-of-time after you have finished.
- Automatic intermittent switch
 - The fan is on a preset timer and throughout the day, the fan will come on and turn off at set intervals.
- Occupancy sensor
 - When someone walks into the bathroom, the fan will come on automatically and will continue to run for a preset amount of time.

Increased air circulation provides additional health benefits as well

- Preventing mold and eliminating odors
- Reducing triggers associated with allergies and asthma
- Eliminating stagnant air
- Removing excess moisture from cooking and potential carbon monoxide from gas stoves

It is important to not modify the settings of your fan, as these settings have been determined based on Indoor Air Quality standards to provide you the most benefit. Changing these can potentially reduce the fresh air we have introduced into your home.

Please know the technician calculated the ventilation settings specifically for your home to meet fresh air standards, but these do not account for high polluting sources such as cigarette smoke or aerosol sprays or guarantee indoor air quality.

Air Leakage

Air leakage in or out of a building has a considerable impact on the energy demand and cost to heat or cool your home. However, you still need fresh outdoor air. To balance these needs, the Weatherization Program works to eliminate uncontrolled air leaks and instead controls where fresh air can come into the home. For example, we prioritize sealing air leaks between the indoors and the crawlspace, garage, or the attic. Then, when the bath fan is on, the new air drawn-in to make-up for the air exhausted is fresh, because it is not drawn from these less desirable places.

One of the best places to reduce air leaking out of the home is in the ductwork.



According to U.S. Department of Energy research, an estimated 30% of the energy you paid to heat a home is actually escaping to the outdoors through leaky ductwork located outside the conditioned area of the home- the crawlspace, garage, or attic. Sealing ductwork with mastic is a very cost effective expense. Ductwork sealing is a one-time-fix in the life of the duct system.

Efficient Lighting Information

An average household dedicates about 5% of its energy budget to lighting. Switching to energy-efficient lighting is one of the fastest ways to cut your energy bills. By replacing your home's five most frequently used light fixtures or bulbs with models that have earned the ENERGY STAR, you could save an average of \$75 each year.

CFLs are Compact Florescent Light Bulbs

CFLs are simply compact version of the long tube fluorescent lights you may already have in a kitchen or garage. An ENERGY STAR-qualified CFL uses about 1/4 the energy and lasts 10 times longer than an incandescent bulb that puts out the same amount of light.



LEDs are Light-Emitting Diodes

LEDs use less energy and last up to 20 years (projected). Check with your local utility to inquire about where to purchase new LEDs at a discount. LEDs produce virtually no heat and nearly no wasted energy. Look for lumens, not watts; the higher the lumens the brighter the light. Color temperature (Kelvin) determines hue of your light. If you like bright white light or daylight, look for 3500 to 5000 Kelvin; if you prefer the soft glow of older incandescent bulbs, look for 2500 Kelvin. Since LEDs do not contain mercury, when (if) they burn out they can go directly in the garbage can.

Cleaning up Broken CFLs and Fluorescents

Before Cleaning

- **Always Air-Out the Room.**
- **Open a window** and have everyone, including pets, leave the room for at least 15 minutes.
- **Turn off the air** conditioning or heating system, if it is on.

Cleaning Hard Surfaces

- Pick up glass fragments using either stiff paper or cardboard and place into a sealable plastic bag.
- Use tape to pick up all remaining small pieces and powder.
- Wipe area with wet paper towels and then place into plastic bag.
- Do NOT use vacuum or broom to clean up broken bulbs!



Cleaning Carpet or Rug

- Pick up glass fragments and place in a sealable plastic bag.
- Use tape to pick up remaining small fragments and powder.
- After all visible pieces are cleaned, vacuum if needed.
- Remove vacuum bag and place in a sealable plastic bag, or,
- Dump out fragments from vacuum to sealable plastic bag and wipe canister that held debris with wet paper towels and then place into plastic bag as well.

Cleaning Clothing, Sheets, Fabric, etc.

- Clothing or sheets that come in direct contact with broken bulbs or mercury-containing powder should be thrown away.
- If clothes do not come in direct contact with broken bulbs (such as the clothes worn while cleaning broken bulbs), it is okay to wash.
- If shoes come in contact with broken bulbs, wipe with wet paper towels and then place the paper towels in a sealable plastic bag to throw away.

Throwing Away Clean Up Materials

- Seal plastic bag with clean up materials within, to throw away.
- Place all clean up materials in an outdoor trash container.
- Always wash hands with soap after cleaning up broken bulbs.
- Check with local or state laws to see if there are recycling centers specifically for CFL's.

Pollutants Awareness

The U.S. Environmental Protection Agency (EPA) considers some leftover household products that can catch fire, react, or explode under certain circumstances, or that are corrosive or toxic as household hazardous waste. Products such as paints, cleaners, oils, batteries, fluorescent lightbulbs and pesticides can contain hazardous ingredients and require special care when you dispose of them.

Household Pollutants & Hazardous Waste Disposal

Products labeled warning, flammable, combustible, danger, toxic, or poison need special handling and disposal. These may include: Aerosols; Automotive products; Batteries; Cleaning products; Contaminated motor oil; Flammable liquids, gasoline, & solvents; Oil-based paints & stains; Fluorescent tubes & light bulbs; Herbicides & pesticides; Mercury thermometers; Pool & spa supplies; Road flares; Small propane bottles; Syringes & sharps and Latex paint cans with more than 2 inches of paint.



Latex paint is not hazardous and can be disposed as garbage once dried. Please manage latex paint at home if you can. Dry smaller amounts of paint with kitty litter, concrete mix, or by painting a piece of cardboard. Larger amounts that you cannot dry at home can be taken to the Household Hazardous Waste Facility. Proper disposal prevents hazards from entering the environment; damaging soil, groundwater and streams and causing harm to people and animals.

Not Accepted

These products are not accepted at the Household Hazardous Waste Collection Facility: leaking containers, empty containers (dispose in garbage with lid removed), explosives; ammunition, radioactive waste, household garbage, or e-waste: televisions, monitors, computers, laptops, tablets, e-readers and portable DVD players.

Handling Household Hazardous Waste

To avoid the potential risks associated with household hazardous waste (HHW), it is important that people always monitor the use, storage and disposal of products with potentially hazardous substances in their homes. Improper disposal of HHW can include pouring them down the drain, on the ground, into storm sewers or in some cases putting them out with the regular trash.

The dangers of such disposal methods might not be immediately obvious, but improper disposal of these wastes can pollute the environment and pose a threat to human health. Certain types of HHW have the potential to cause physical injury to sanitation workers, contaminate septic tanks or wastewater treatment systems if poured down drains or toilets. They can also present hazards to children and pets if left around the house.

Quick Tips for the Safe Handling of Household Hazardous Waste

- Follow any instructions for use and storage provided on product labels carefully to prevent any accidents at home.
- Be sure to read product labels for disposal directions to reduce the risk of products exploding, igniting, leaking, mixing with other chemicals, or posing other hazards on the way to a disposal facility.
- Never store hazardous products in food containers; keep them in their original containers and never remove labels. Corroding containers, however, require special handling. Call your local hazardous materials official or fire department for instructions.
- When leftovers remain, never mix HHW with other products. Incompatible products might react, ignite, or explode and contaminated HHW might become unrecyclable.

Safe Transport Tips

- **Use original containers.** Keep the product in its original container. If you have used a different container, label it.
- **Keep away from passenger cabin.** Keep the product out of the passenger compartment of your vehicle and away from children and pets.
- **Secure the load.** Place containers in a plastic bin or box with a lid, and keep them from tipping or leaking. If transporting waste in a truck, secure the load with ties to prevent the load from shifting.
- **Never mix.** Do not mix different types of products in the same containers.
- **Do not tape bulbs or let them get wet.** Do not tape fluorescent tubes or bulbs together, and when possible, transport them in the original box to prevent breakage.

How to Use Household Hazardous Waste Facilities

Many HHW facilities are drive-up facilities. When it's your turn to be helped, you will be directed to drive under a covered area. Staff will sort your waste, with your assistance. They may ask you questions or provide education. Before you leave, you will sign an agreement verifying that your waste is from a home and not from a business.

- **Make an appointment if you have a large load.** Call a few days in advance for large loads (larger than 5 gallon containers, loads over 50 gallons total, or more than 50 containers). If you do not make an appointment, the facility may turn you away and then you will be required to make a follow-up appointment. Making an appointment helps you get in and get out faster.
- **Transport safely.** It is important that you safely transport your waste.
- **Do not bring empty containers.** Put empty containers in your household garbage. Remove the lid off so your garbage hauler can see they are empty.
- **Check with your local** environmental, health or solid waste agency for more information on HHW management options in your area.
- If your community doesn't have a year-round collection system for HHW, **see if there are any designated days** in your area for collecting HHW at a central location to ensure safe management and disposal.
- **Check around.** If your community has neither a permanent collection site nor a special collection day, you might be able to drop off certain products at local businesses for recycling or proper disposal. Some local garages, for example, may accept used motor oil for recycling.
- Remember, **even empty containers of HHW can pose hazards** because of the residual chemicals that might remain so handle them with care.

Hazardous Materials

Hazardous Materials include



Refrigerant, Asbestos, Lead and Mercury including CFLs/Fluorescents

Weatherization work can require the handling of hazardous waste materials. Any hazardous waste materials generated in the course of the weatherization work will be disposed of according to all local laws, regulation and federal guidelines, as applicable.

The following sections give more information on the more common hazards associated with hazardous waste materials generated or handled in the home.

Hg Mercury

Where is Mercury Found?

Fluorescent lighting contains a trace amount of Mercury sealed in the glass tubing of the bulb. This includes tubes and Compact Fluorescent Lights (CFLs). The amount of mercury varies depending on bulb size and age. Newer bulbs contain less. When bulbs are broken, they must be handled with great care. In addition, they must be recycled or disposed of as Household Hazardous Waste at an approved site. Thermostats, especially older thermostats may also contain Mercury.



Mercury is a naturally occurring element, and poisoning can result from exposure to water-soluble forms of mercury (such as mercuric chloride or methylmercury), by inhalation of mercury vapor or by ingesting any form of mercury. Mercury can inhibit the development of the brain and nervous system in young children and women of childbearing age. When mercury enters our environment, it becomes part of the food chain for all living organisms. Mercury does not break down, so it builds up in fish, birds and people.

Pb Lead

Where is Lead Found?

Lead is a naturally occurring element and can be found in all parts of our environment – the air, the soil, the water, and even inside our homes. Lead and lead compounds have been used in a wide variety of products found in and around our homes, including paint, ceramics, pipes and plumbing materials, solders, leaded-gasoline, batteries, ammunition and cosmetics.

Most homes built before 1978 contain some lead-based paint. Lead-based paint is more common and was used more extensively in homes built before 1950. Moisture problems, regular use, rubbing, or impact can cause paint failure. Lead-based paint chips and dust mixes with house dust. Lead can be absorbed into your body by breathing dust or eating particles. The most important step parents, doctors, and others can take is to **prevent lead exposure before it occurs**.

If the Local Agency identifies or presumes lead-paint and as part of the work plans to disturb those painted surfaces, this can create lead dust. Then, the weatherization workers will follow lead containment protocols to minimize risk.

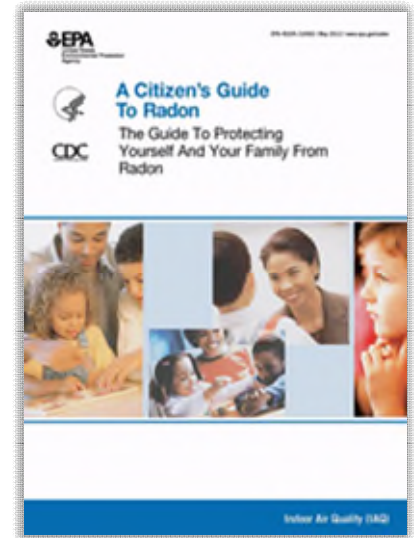
Children are especially vulnerable. Lead in paint chips, dust and soil can get on children's hands or toys, which they may put in their mouths. Lead poisoning can make children very sick and cause permanent brain and nerve damage and can result in learning difficulties and behavior problems. Adults are also at risk. Lead-based paint can cause damage to adult brains, nervous systems and reproductive systems. This damage is irreversible. Lead poisoning is a tragedy we can prevent.

For more information for your home, please see *Client Health and Safety Observed Conditions* form. For general Lead information, see EPA booklet, [**The Lead Safe Certified Guide to Renovate Right**](#).



Rn Radon

Radon is a naturally occurring, chemically inert, radioactive gas that is not detectable by human senses. It comes from the natural breakdown of uranium in soil, rock and water and can get into the air you breathe. As a gas, it can move readily through particles of soil and rock, and can accumulate under the slabs and foundations of a home where it can easily enter into the living space through construction cracks and openings. Radon can be found all over the U.S. and homes may be tested for radon in areas where it is known to occur at a high level.

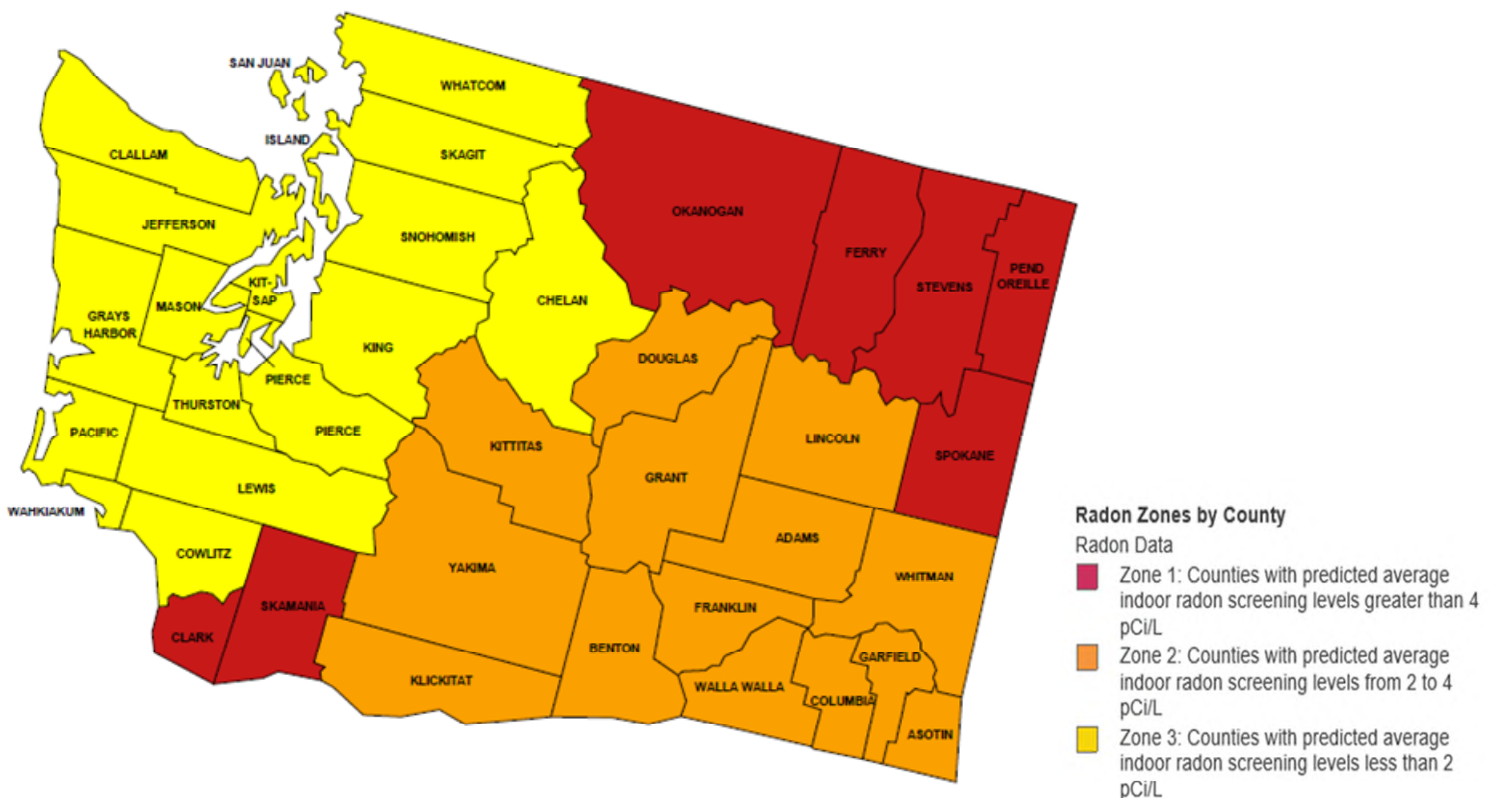


Radon gas exposure remains a significant U.S. health risk. The EPA estimates that indoor radon causes or contributes to 21,000 lung cancer deaths each year.

Weatherization benefits include energy savings, energy cost savings, improved home comfort and increased safety. There is a small risk of increasing radon levels when building tightness is improved.

For more information for your home, please see *Client Health and Safety Observed Conditions* form. For general Radon information, see EPA booklet, [A Citizen's Guide to Radon](#).

Radon Zones



Asbestos



United States Environmental
Protection Agency (EPA)

What is Asbestos?

Asbestos is a mineral fiber that occurs in rock and soil.

Where Can I Find Asbestos?

Because of its fiber strength and heat resistance, asbestos has been used in a variety of building construction materials for insulation and as a fire retardant. Asbestos has also been used in a wide range of manufactured goods, mostly in building materials (roofing shingles, ceiling and floor tiles, paper products and asbestos cement products), friction products (automobile clutch, brake and transmission parts), heat-resistant fabrics, packaging, gaskets and coatings.

Where Asbestos might be found

- Attic and wall insulation produced containing vermiculite
- Vinyl floor tiles and the backing on vinyl sheet flooring and adhesives
- Roofing and siding shingles
- Textured paint and patching compounds used on wall and ceilings
- Walls and floors around wood-burning stoves protected with asbestos paper, millboard, or cement sheets
- Hot water and steam pipes coated with asbestos material or covered with an asbestos blanket or tape
- Oil and coal furnaces and door gaskets with asbestos insulation
- Heat-resistant fabrics
- Automobile clutches and brakes

How Can People Be Exposed to Asbestos?

Asbestos fibers may be released into the air by disturbing asbestos containing material (ACM) during product use, demolition work, building or home maintenance, repair, or remodeling. In general, exposure may occur only when the ACM is disturbed or damaged in some way to release particles and fibers into the air.

Repeated exposure to asbestos increases your risk of developing lung cancer, mesothelioma and asbestosis.

If you think there may be asbestos in your home, don't panic! Generally, ACMs that aren't damaged or disturbed are not likely to pose a health risk. Do not touch ACMs. Leave asbestos containing material alone if it is in good condition.

If there are ACM's in your home that does not mean we will not weatherize your home; however, it may limit what we can do as we cannot remove the material.

For more information for your home, please see *Client Health and Safety Observed Conditions* form.

For general Asbestos information, see EPA websites: <https://www.epa.gov/asbestos> and <https://www.epa.gov/asbestos/protect-your-family-exposures-asbestos>

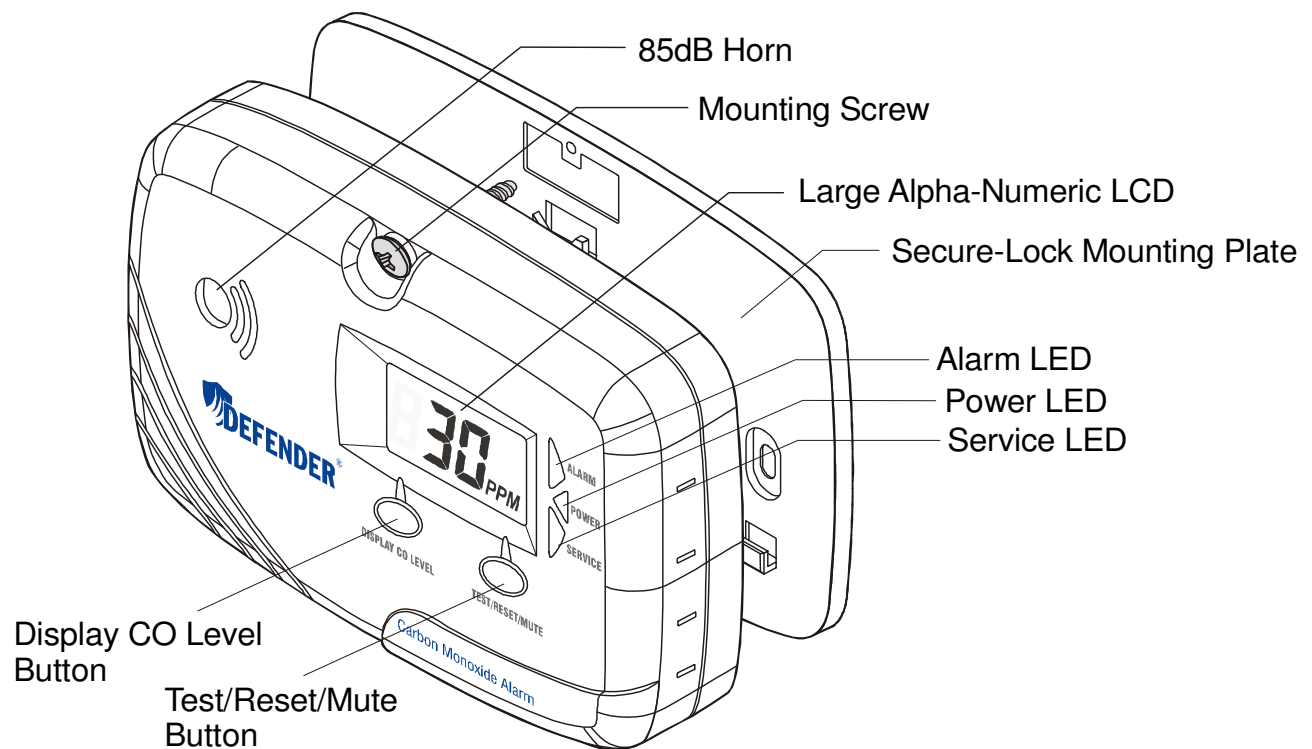


Department of Commerce



CA6150 Carbon Monoxide Alarm

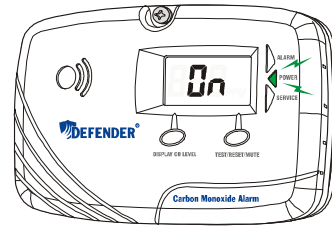
QUICK START GUIDE



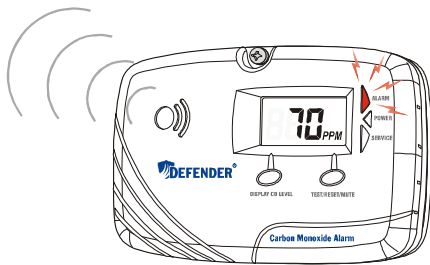
The Defender CA6150 Carbon Monoxide Alarm is Underwriters Laboratories Tested and Listed to the ANSI/UL 2034 residential safety standard. The CA6150 also provides added protection for your health, and enables you to monitor the current and peak CO levels as low as 10 PPM, and the duration of the peak level, at the touch of a button. This alarm is not designed to measure compliance with OSHA or commercial standards.

4. CONDENSED OPERATION INSTRUCTONS

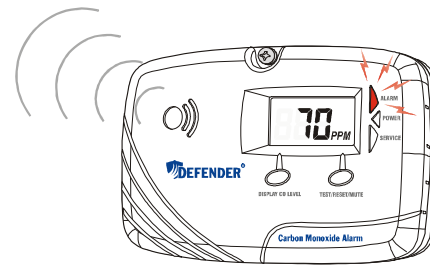
OPERATION: The CO alarm is operational once the activation switch is slid to **ON** position. If the alarm's power is active, the **POWER** green LED will flash once every 60 seconds, and the LCD readout will continuously display ON, or the current CO level if 30 PPM or more is detected.



ALARM CONDITION: When the batteries are active, and CO gas is detected at a level and duration specified in Section 3 of the Owner's Manual, the horn will sound and **ALARM** red LED will light. The alarm signal will sound 4 short beeps every 6 seconds, and flash the **ALARM** red LED in sync with the beeping sound. The LCD will also display the current CO level detected. After having alarmed for more than 5 minutes, the alarm signal will change to 4 short beeps every 60 seconds. The alarm signal is either manually or automatically reset. See Section 10 of Owner's Manual **WHAT TO DO WHEN THE ALARM SOUNDS**.



**Beeps 4 times every 6 seconds
for first 5 minutes**

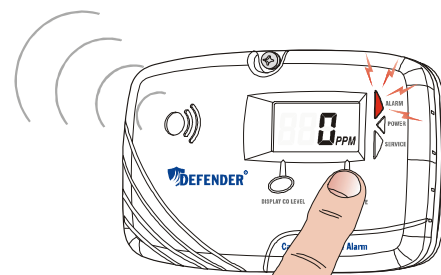


**Beeps 4 times per minute
after 5 minutes**

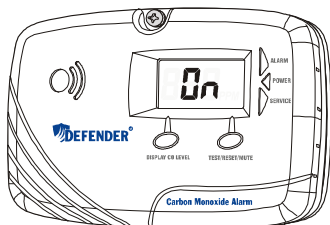
TEST/RESET/MUTE BUTTON:

The **TEST/RESET/MUTE** button is used to check the alarm for proper operation, and to temporarily mute horn for 5 minutes when alarm is activated, for 24 hours during the first week of a "Low Battery Voltage" signal (🔋) activation, or for 60 hours during the first month of a sensor "End-of-Life" signal (End) activation. The LCD

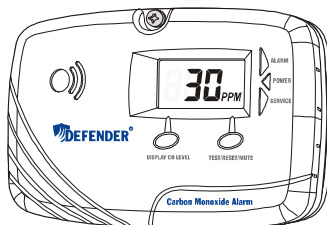
will display the current CO level detected when alarm is being tested, or **OFF** when an alarm signal is muted. See Section 9 of Owner's Manual **TEST AND MUTE ALARM** for detailed instructions to test the alarm and mute the audible horn.



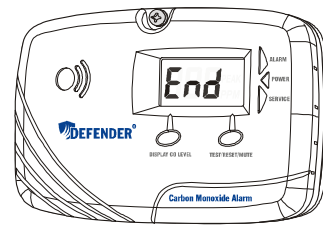
LCD DISPLAY FUNCTION: When alarm is operating normally, the LCD will display ON or the current CO level if 30 PPM or more is detected. The LCD will display **End** after ten years of operation to alert you that it is time to replace the alarm.



Continuously Displays “On”
(below 30 PPM)



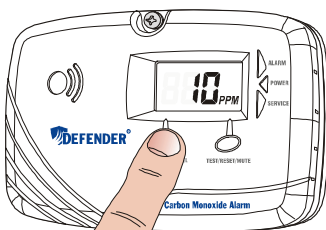
Auto. Displays 30 - 999 PPM
(e.g. 30 PPM detected)



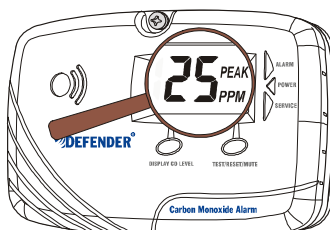
Displays “End” When Expires
(ten years after activation)

DISPLAY CO LEVEL BUTTON: To manually display the current and highest CO level detected as low as 10 PPM, press the **DISPLAY CO LEVEL** button once. The LCD will display the recorded data in the following order:

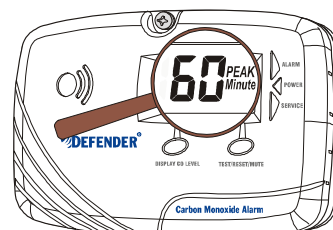
1. The current CO level detected within the last minute from 10 to 999 PPM.
2. The highest CO level detected within last 30 days from 10 to 999 PPM.
3. The total length of time the highest CO level was detected, within 10% of the peak, from 1 to 999 minutes.



Current CO Level
(e.g. 10 PPM detected
within last minute)

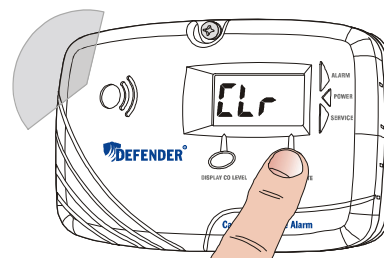


Highest CO Level
(e.g. peak of 25 PPM detected
within last 30 days)



Duration of Peak CO Level
(e.g. peak detected
for 60 minutes)

Each reading will appear for five seconds. To erase the record in memory, press the **Display CO Level** button, and while the readings are being displayed, press the **TEST/RESET/MUTE** button. The alarm will burst a long beep, and display **Clr**.



IMPORTANT! Read all instructions of the complete Owner’s Manual before installation and operation of this CO alarm, including important messages, information about carbon monoxide, alarm functions and operation, how to test and mute alarm, what to do when alarm sounds, limitations of CO alarms, good safety habits, sensor end-of-life and alarm service, description of audible and visual signals, and limited warranty.



Protect Your Family From Lead in Your Home



United States
Environmental
Protection Agency



United States
Consumer Product
Safety Commission



United States
Department of Housing
and Urban Development

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
- How lead affects health
- 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 or 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 precautions 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.

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.

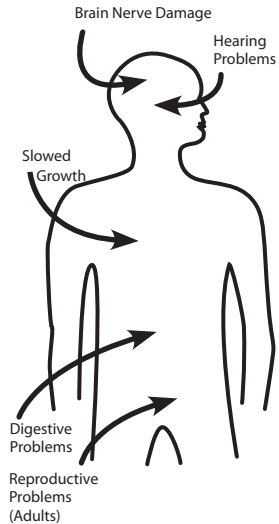
- Women with a high lead level in their system before or during pregnancy risk exposing the fetus to lead through the placenta during fetal development.

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

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.

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 levels greater than or equal to 1.0 milligram per square centimeter (mg/cm²), 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.

Identifying Lead-Based Paint and Lead-Based Paint Hazards

Deteriorated 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:

- 10 micrograms per square foot ($\mu\text{g}/\text{ft}^2$) and higher for floors, including carpeted floors
- 100 $\mu\text{g}/\text{ft}^2$ 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.

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 1-800-877-8339.

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 nap time and bed time.
- 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.

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 enclosing 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 contractor. 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.

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, Repairing or Painting 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
 - 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/getleadsafe, or read *The Lead-Safe Certified Guide to Renovate Right*.

Other Sources of Lead

Lead in Drinking Water

The most common sources of lead in drinking water are lead pipes, faucets, and fixtures.

Lead pipes are more likely to be found in older cities and homes built before 1986.

You can't smell or taste lead in drinking water.

To find out for certain if you have lead in drinking water, have your water tested.

Remember older homes with a private well can also have plumbing materials that contain lead.

Important Steps You Can Take to Reduce Lead in Drinking Water

- Use only cold water for drinking, cooking and making baby formula. Remember, boiling water does not remove lead from water.
- Before drinking, flush your home's pipes by running the tap, taking a shower, doing laundry, or doing a load of dishes.
- Regularly clean your faucet's screen (also known as an aerator).
- If you use a filter certified to remove lead, don't forget to read the directions to learn when to change the cartridge. Using a filter after it has expired can make it less effective at removing lead.

Contact your water company to determine if the pipe that connects your home to the water main (called a service line) is made from lead. Your area's water company can also provide information about the lead levels in your system's drinking water.

For more information about lead in drinking water, please contact EPA's Safe Drinking Water Hotline at 1-800-426-4791. If you have other questions about lead poisoning prevention, call 1-800 424-LEAD.*

Call your local health department or water company to find out about testing your water, or visit epa.gov/safewater for EPA's lead in drinking water information. Some states or utilities offer programs to pay for water testing for residents. Contact your state or local water company to learn more.

* Hearing- or speech-challenged individuals may access this number through TTY by calling the Federal Relay Service at 1-800-877-8339.

Other Sources of Lead, continued

- **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 1978, the federal government banned toys, other children's products, and furniture with lead-containing paint. In 2008, the federal government banned lead in most children's products. The federal government currently bans lead in excess of 100 ppm by weight in most children's products.

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/safewater and hud.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/safewater, 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, OES 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 08837-3679
(732) 906-6809

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
AFC Tower, 12th Floor, Air, Pesticides & Toxics
61 Forsyth Street, SW
Atlanta, GA 30303
(404) 562-8998

Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)

Regional Lead Contact
U.S. EPA Region 5 (LL-17J)
77 West Jackson Boulevard
Chicago, IL 60604-3666
(312) 353-3808

Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas, and 66 Tribes)

Regional Lead Contact
U.S. EPA Region 6
1445 Ross Avenue, 12th Floor
Dallas, TX 75202-2733
(214) 665-2704

Region 7 (Iowa, Kansas, Missouri, Nebraska)

Regional Lead Contact
U.S. EPA Region 7
11201 Renner Blvd.
Lenexa, KS 66219
(800) 223-0425

Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)

Regional Lead Contact
U.S. EPA Region 8
1595 Wynkoop St.
Denver, CO 80202
(303) 312-6966

Region 9 (Arizona, California, Hawaii, Nevada)

Regional Lead Contact
U.S. EPA Region 9 (CMD-4-2)
75 Hawthorne Street
San Francisco, CA 94105
(415) 947-4280

Region 10 (Alaska, Idaho, Oregon, Washington)

Regional Lead Contact
U.S. EPA Region 10 (20-C04)
Air and Toxics Enforcement Section
1200 Sixth Avenue, Suite 155
Seattle, WA 98101
(206) 553-1200

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. Office of Lead Hazard Control and Healthy Homes 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/lead

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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).

DOES YOUR ATTIC CONTAIN VERMICULITE INSULATION?

The Zonolite Attic Insulation Trust (ZAI Trust) was created to help educate the public about the possible health effects of asbestos-containing vermiculite and to provide partial reimbursement for ZAI removal to qualified claimants. The Trust is expected to operate for a minimum of 20 years.

Learn more about the ZAI Trust and find out whether you may be eligible for partial reimbursement of your abatement costs, even if you have already completed removal.

Phone: **(844) ZAI-CALL**
317 Wingo Way, Suite 303
Mt. Pleasant, SC 29464
Fax: **843-388-3790**
Email: **info@zaitrust.com**

How to Identify Materials That May Contain Asbestos

Generally, you can't tell whether a material contains asbestos simply by looking at it, unless it is labeled. If in doubt, treat the material as if it contains asbestos and leave it alone. You may want to have your home inspected for asbestos-containing materials by a [trained and accredited asbestos professional](#) if:

- You are planning to remodel your home (remodeling can disturb building materials)
- Your home has damaged building materials (like crumbling drywall and insulation that is falling apart)

A trained and accredited asbestos professional should take samples for analysis, since a professional knows what to look for, and because there may be an increased health risk if fibers are released. In fact, if done incorrectly, sampling can be more hazardous than leaving the material alone. Taking samples yourself is not recommended.

If building materials in your home aren't damaged and won't be disturbed, you do not need to have your home tested for asbestos. Material that is in good condition and will not be disturbed (by remodeling, for example) should be left alone.

[See common products that may contain asbestos](#)

What to Do If You Have Asbestos in Your Home

If you think there may be asbestos in your home, don't panic.

Asbestos-containing materials that aren't damaged or disturbed are not likely to pose a health risk. Usually the best thing is to leave asbestos-containing material alone if it is in good condition.

Generally, asbestos-containing material that is in good condition and will not be disturbed (by remodeling, for example) will not release asbestos fibers.

Asbestos-containing materials may release fibers when they are disturbed, damaged, removed improperly, repaired, cut, torn, sanded, sawed, drilled or scraped. Keep an eye on asbestos-containing materials and visually check them over time for signs of wear or damage.

If you suspect material contains asbestos, don't touch it. Look for signs of wear or damage such as tears, abrasions, or water damage. Damaged material may release asbestos fibers. This is particularly true if you often disturb it by hitting, rubbing or handling, or if it is exposed to extreme vibration or air flow.

For slightly damaged asbestos-containing material, sometimes the best way to deal with it is to limit access to the area and not to touch or disturb it. If asbestos-containing material is more than

slightly damaged or if you are going to make changes in your home that might disturb it, repair or removal by a [trained and accredited asbestos professional](#) is needed.

Asbestos Do's and Don'ts for the Homeowner

- Do leave undamaged asbestos-containing materials alone.
- Do keep activities to a minimum in any areas having damaged material that may contain asbestos, including limiting children's access to any materials that may contain asbestos.
- Do take every precaution to avoid damaging asbestos-containing material.
- Do have removal and major repair done by people trained and qualified in handling asbestos. It is highly recommended that sampling and minor repair also be done by a [trained and accredited asbestos professional](#).
- Don't dust, sweep, or vacuum debris that may contain asbestos.
- Don't saw, sand, scrape, or drill holes in asbestos-containing materials.
- Don't use abrasive pads or brushes on power strippers to strip wax from asbestos flooring. Never use a power stripper on flooring that may contain asbestos.
- Don't sand or try to level asbestos flooring or its backing. When asbestos flooring needs replacing install new floor covering over it, if possible.
- Don't track material that could contain asbestos through the house. If you cannot avoid walking through the area, have it cleaned with a wet mop. If the material is from a damaged area or if a large area must be cleaned, call an asbestos professional.

If You Have an Asbestos Problem

If the asbestos-containing material is more than slightly damaged or could be disturbed, there are two types of actions that can be taken by [trained and accredited asbestos professionals](#): repair and removal.

Repair usually involves either sealing or covering asbestos material. With any type of repair, the asbestos remains in place.

- Sealing (encapsulation) involves treating the material with a sealant that either binds the asbestos fibers together or coats the material so fibers are not released. Pipe, furnace and boiler insulation can sometimes be repaired this way. This should be done only by a professional trained to handle asbestos safely.
- Covering (enclosure) involves placing something over or around the material that contains asbestos to prevent release of fibers. Exposed insulated piping may be covered with a protective wrap or jacket.

Removal may be required when remodeling or making major changes to your home will disturb asbestos-containing material. Also, removal may be called for if asbestos-containing material is damaged extensively and cannot be otherwise repaired. Removal is complex and must be done only by a trained and accredited asbestos professional. Improper removal may actually increase your and your family's exposure to asbestos fibers.

Asbestos Professionals: Who Are They and What Can They Do?

In general, there are two main types of accredited asbestos professionals that can be hired to handle asbestos-containing material:

- Asbestos Inspectors. These individuals can inspect a home or building, assess conditions, take samples of suspected materials for [testing](#), and advise about what corrections are needed. If repair or removal of asbestos materials is chosen, inspectors can ensure the corrective-action contractor has followed proper procedures, including proper clean up, and can monitor the air to ensure no increase of asbestos fibers.
- Asbestos Contractors. These professionals can repair or remove asbestos materials.

Federal law does not require persons who inspect, repair or remove asbestos-containing materials in detached single-family homes to be trained and accredited; however, some states and localities do require this. For safety, homeowners should ensure that workers they hire to handle asbestos are trained and accredited.

[State agencies have the most up-to-date listings of accredited professionals in your area.](#)

Before You Hire an Asbestos Professional

- Avoid a conflict of interest. An asbestos professional hired to assess the need for asbestos repair or removal should not be connected with an asbestos firm that does the actual repair or removal of materials. It is better to use two different firms so there is no conflict of interest.
- Ask asbestos professionals to document their completion of federal or state-approved training. Each person performing work should provide proof of accreditation to do asbestos work.
- Check on the past performance of your asbestos professional with your local air pollution control board, the local agency responsible for worker safety, and the Better Business Bureau. Ask if the firm has had any safety violations. Find out if there are legal actions filed against it.

If You Hire an Asbestos Professional Inspector

- Make sure that the inspection will include a complete visual examination and the careful collection and laboratory analysis of samples.
- If asbestos is present, the inspector should provide a written evaluation describing its location and extent of damage and give recommendations for correction or prevention. The inspector may recommend and perform checks after the correction to assure the area has been properly cleaned.

If You Hire an Asbestos Professional Contractor

- Before work begins, get a written contract specifying the work plan, cleanup, and the applicable federal, state, and local regulations which the contractor must follow (such as notification requirements, removal, handling and disposal procedures). Check with [state agencies](#) and [asbestos worker protection](#) laws to learn about federal, state, and local laws.
- At the end of the job, get written assurance from the contractor that all procedures have been followed.
- Ensure the contractor follows these procedures:
 - Avoids spreading or tracking asbestos dust into other areas of your home.
 - Disposes of all materials, disposable equipment and clothing used in the job in sealed, leak-proof, and labeled heavy-duty plastic bags. The work site should be visually free of dust and debris.
 - Upon completion, clean the entire area thoroughly with wet mops, wet rags, sponges, or HEPA (high-efficiency particulate air) vacuum cleaners. A regular vacuum cleaner should never be used.
 - Does not break removed material into small pieces. This could release asbestos fibers into the air.
 - Applies a wetting agent to the asbestos material with a hand sprayer that creates a fine mist before removal. Wet fibers do not float in the air as easily as dry fibers and will be easier to clean up.
 - Ensures the work site is clearly marked as a hazard area. Do not allow household members and pets into the area until work is completed.
 - Seals the work area from the rest of the house using plastic sheeting and duct tape, and turns off the heating and air conditioning system. For some repairs, such as pipe insulation removal, plastic glove bags may be adequate. They must be sealed with tape and properly disposed of when the job is complete.

After the work is complete, an inspector or an independent air testing contractor may perform air monitoring to make sure there is no increase of asbestos fibers in the air which may be necessary to assure that the contractor's job was done properly.

FACT SHEET

Protect Your Family from Asbestos-Contaminated Vermiculite Insulation

Why should I be concerned about asbestos-contaminated vermiculite insulation?

A mine near Libby, Montana was the source of over 70 percent of all vermiculite sold in the U.S. from 1919 to 1990. There was also a deposit of asbestos at that mine, so the vermiculite from Libby was contaminated with asbestos. Vermiculite from Libby was used in the majority of vermiculite insulation in the U.S and was often sold under the brand name Zonolite. If you have vermiculite insulation in your home, you should assume this material may be contaminated with asbestos and be aware of steps you can take to protect yourself and your family from exposure to asbestos.

What is vermiculite?

Vermiculite is a naturally-occurring mineral composed of shiny flakes, resembling mica. When heated to a high temperature, flakes of vermiculite expand as much as 8-30 times their original size. The expanded vermiculite is a light-weight, fire-resistant, and odorless material and has been used in numerous products, including insulation for attics and walls. Sizes of vermiculite products range from very fine particles to large (coarse) pieces nearly an inch long.

How can I tell if my insulation is made from vermiculite?

Look at the photos on this website and then look at the insulation without disturbing it. Vermiculite insulation is a pebble-like, pour-in product and is usually gray-brown or silver-gold in color.



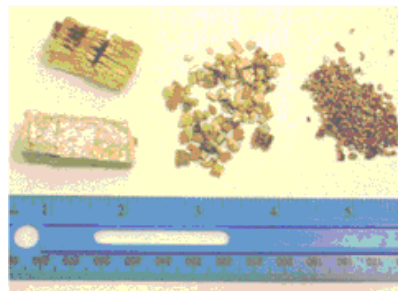
Typical vermiculite insulation



Vermiculite insulation between attic joists



Vermiculite insulation particle size relative to paper clip



Different sizes of vermiculite particles



Typical vermiculite insulation

How can I tell if my vermiculite insulation contains asbestos?

You should assume that vermiculite insulation is from Libby and treat the material as if it contained asbestos by not disturbing it or by using a trained professional if it needs to be removed. Since the Libby mine was estimated to be the source of over 70 percent of all vermiculite sold in the U.S. from 1919 to 1990 and vermiculite from Libby was contaminated with asbestos, further testing is not necessary to take the appropriate precautions. While you can hire a trained professional to test your attic for asbestos, this may be expensive and depending on the methods used, might give you erroneous results. We do not recommend that you open your walls to check for vermiculite.

Is my family at risk of exposure to asbestos if we have vermiculite insulation?

Asbestos causes cancer and other diseases. There is no known safe level of asbestos exposure. Asbestos fibers must be airborne to cause a health risk through inhalation, so the first step is not to disturb the material, which would release more fibers into the air. If you remove or disturb the insulation, it is probable that you may inhale some asbestos fibers – the degree of health risk depends on how much and how often this occurred. If you do not go into your attic, handle, or disturb the insulation, it is likely that you will not be exposed to asbestos fibers from vermiculite insulation.

Also, you need to consider if any disturbance of the insulation – possibly by a contractor doing work in you attic -- may result in the fibers being deposited into other areas of your house where an exposure might be possible.

Will I or members of my family become ill if any of us has personally removed or handled insulation that contained asbestos?

It is not possible to say whether your exposure may result in disease. Exposure to asbestos increases your risk of developing lung diseases including asbestosis, lung cancer, or mesothelioma, and disease may not occur until decades after exposure. The risk of disease increases as the level, duration, and frequency of exposure increases. That risk is made worse by smoking.

If you are concerned about possible exposure, talk to your doctor and consider consulting a physician who specializes in lung diseases, also known as a pulmonologist. For more information on asbestos-related diseases see the Agency for Toxic Substances & Disease Registry web site at http://www.atsdr.cdc.gov/asbestos/asbestos/health_effects/ .

What should I do if I have vermiculite insulation?

YOU SHOULD ASSUME THE VERMICULITE CONTAINS ASBESTOS AND DO NOT DISTURB IT! Any disturbance could potentially release asbestos fibers into the air. If you absolutely have to go in your attic and it contains vermiculite insulation, you should limit the number of trips you make and shorten the length of those trips in order to help limit your potential exposure.

We recommend that you:

- Leave vermiculite insulation undisturbed in your attic or in your walls.
- Do not store boxes or other items in your attic if it contains vermiculite insulation.
- Do not allow children to play in an attic with vermiculite insulation.
- Do not attempt to remove the insulation yourself.
- Hire a professional asbestos contractor if you plan to remodel or conduct renovations that would disturb the vermiculite in your attic or walls to make sure the material is safely handled and/or removed.

What if I occasionally need to go into my attic -- how can I reduce my exposure?

We recommend that you make every effort not to disturb vermiculite insulation in your attic or walls. If you occasionally need to go into your attic, you should:

- Make every effort to stay on the floored part of your attic and do not disturb the insulation. For asbestos to present a problem for the homeowner, it must be disturbed so that microscopic fibers are released into the air.
- Wear protective equipment. **Common dust masks do not protect you against asbestos fibers.** You should at least wear an OSHA-approved respirator and appropriate protective clothing and eye protection as indicated in OSHA workplace standards. For information on OSHA-approved personal protection, visit OSHA's website at http://www.osha.gov/SLTC/respiratory_protection/index.html
- Consider storing boxes or other materials elsewhere in your home.
- If you must perform activities that may disturb the vermiculite insulation, such as moving boxes (or other materials), do so as gently as possible to minimize the disturbance.
- Leave the attic immediately after the disturbance.
- Do not track vermiculite insulation or associated dust into the living spaces of your home.
- If you need work done in your attic or in your home's walls which will disturb vermiculite insulation, such as the installation of cable or utility lines, hire trained and certified asbestos professionals who can safely do the work.

Will the insulation contaminate the rest of my house?

It is possible that vermiculite insulation can sift through cracks in the ceiling, around light fixtures, or around ceiling fans. You can prevent this by sealing the cracks and holes that insulation could pass through. In addition, some air ventilation systems may disturb the insulation. If you think that fibers are getting into your living space, then you should contact an accredited asbestos inspector to help determine if you are at risk for exposure to asbestos.

Where can I get information on removal of the insulation?

Removing the insulation yourself could potentially spread harmful asbestos fibers throughout your home, putting you and your family at risk. We recommend using a trained and certified asbestos professional to conduct asbestos removal work using a "negative pressure enclosure" technique. This technique prevents asbestos fibers from escaping the attic into the rest of the house.

Certified asbestos contractors are required to ensure they properly remove the asbestos without causing additional contamination. To find the name of a local asbestos removal contractor in

your state, please go to the state map on EPA's web site at www.epa.gov/asbestos/contractors. Your state environmental agency can confirm that the company's credentials are current.

What if I was exposed to asbestos-containing vermiculite as a contractor or through other activities that may have disturbed vermiculite?

The majority of people who contract asbestos disease were exposed through working with asbestos materials in their workplace. If you are concerned that you may have been exposed to asbestos, you may want to consult a physician who specializes in lung disease. For more information and to obtain a fact sheet concerning occupational exposure to asbestos, contact the National Institute for Occupational Safety and Health (NIOSH) at: 1-800-35-NIOSH, or <http://www.cdc.gov/niosh/homepage.html>.

Where can I get more information?

To learn more about vermiculite and asbestos, visit EPA's Web site www.epa.gov/asbestos, or contact the following sources:

General Information

EPA's Toxic Substances Control Act (TSCA) Assistance Information Service: Asbestos Line:
1-800-471-7127
EPA Asbestos Ombudsman: 1-800-368-5888
EPA's Asbestos Home Page: <http://www.epa.gov/asbestos/>

Health Information

Agency for Toxic Substances and Disease Registry (ATSDR):
<http://www.atsdr.cdc.gov/asbestos/>

Worker Safety

Occupational Safety and Health Administration (OSHA):
<http://www.osha.gov/SLTC/asbestos/>

National Institute for Occupational Safety and Health (NIOSH):
<http://www.cdc.gov/niosh/topics/asbestos/>

Consumer Products

Consumer Product Safety Commission (CPSC): <http://www.cpsc.gov>

Mineralogy

United States Geological Survey (USGS):
<http://mineras.usgs.gov/minerals/pubs/commodity/asbestos/>

Care for Your Air: A Guide to Indoor Air Quality





Understand indoor air in homes, schools, and offices

Most of us spend much of our time indoors. The air that we breathe in our homes, in schools, and in offices can put us at risk for health problems. Some pollutants can be chemicals, gases, and living organisms like mold and pests.

Several sources of air pollution are in homes, schools, and offices. Some pollutants cause health problems such as sore eyes, burning in the nose and throat, headaches, or fatigue. Other pollutants cause or worsen allergies, respiratory illnesses (such as asthma), heart disease, cancer, and other serious long-term conditions. Sometimes individual pollutants at high concentrations, such as carbon monoxide, cause death.



Some pollutants in the air are especially harmful for children, elderly people, and those with health problems.

Learn about pollutants

Understanding and controlling some of the common pollutants found in homes, schools, and offices may help improve your indoor air and reduce your family's risk of health concerns related to indoor air quality (IAQ).

Radon is a radioactive gas that is formed in the soil. It can enter indoors through cracks and openings in floors and walls that are in contact with the ground.

- Radon is the leading cause of lung cancer among nonsmokers, and the second leading cause of lung cancer overall.

Secondhand smoke comes from burning tobacco products. It can cause cancer and serious respiratory illnesses.

- Children are especially vulnerable to secondhand smoke. It can cause or worsen asthma symptoms and is linked to increased risks of ear infections and Sudden Infant Death Syndrome (SIDS).

Combustion Pollutants are gases or particles that come from burning materials. In homes, the major source of combustion pollutants are improperly vented or unvented fuel-burning appliances such as space heaters, woodstoves, gas stoves, water heaters, dryers, and fireplaces. The types and amounts of pollutants produced depends on the type of appliance, how well the appliance is installed, maintained, and vented, and the kind of fuel it uses. Common combustion pollutants include:

- Carbon monoxide (CO) which is a colorless, odorless gas that interferes with the delivery of oxygen throughout the body. Carbon monoxide causes headaches, dizziness, weakness, nausea, and even death.
- Nitrogen dioxide (NO₂) which is a colorless, odorless gas that causes eye, nose and throat irritation, shortness of breath, and an increased risk of respiratory infection.

Volatile organic compounds (VOCs) are chemicals found in paints and lacquers, paint strippers, cleaning supplies, varnishes and waxes, pesticides, building materials and furnishings, office equipment, moth repellents, air fresheners, and dry-cleaned clothing. VOCs evaporate into the air when these products are used or sometimes even when they are stored.

- Volatile organic compounds irritate the eyes, nose and throat, and cause headaches, nausea, and damage to the liver, kidneys, and central nervous system. Some of them can cause cancer.



Asthma triggers are commonly found in homes, schools, and offices and include mold, dust mites, secondhand smoke, and pet dander. A home may have *mold* growing on a shower curtain, *dust mites* in pillows, blankets or stuffed animals, *secondhand smoke* in the air, and *cat and dog hairs* on the carpet or floors. Other common asthma triggers include some foods and pollutants in the air.

- Asthma triggers cause symptoms including coughing, chest tightness, wheezing, and breathing problems. An asthma attack occurs when symptoms keep getting worse or are suddenly very severe. Asthma attacks can be life threatening. However, asthma is controllable with the right medicines and by reducing asthma triggers.

Molds are living things that produce spores. Molds produce spores that float in the air, land on damp surfaces, and grow.

- Inhaling or touching molds can cause hay fever-type symptoms such as sneezing, runny nose, red eyes, and skin rashes. Molds can also trigger asthma attacks.

Improving your air

Take steps to help improve your air quality and reduce your IAQ-related health risks at little or no cost by:

Controlling the sources of pollution: Usually the most effective way to improve indoor air is to eliminate individual sources or reduce their emissions.

Ventilating: Increasing the amount of fresh air brought indoors helps reduce pollutants inside. When weather permits, open windows and doors, or run an air conditioner with the vent control open. Bathroom and kitchen fans that

exhaust to the outdoors also increase ventilation and help remove pollutants.

Always ventilate and follow manufacturers' instructions when you use products or appliances that may release pollutants into the indoor air.

Changing filters regularly: Central heaters and air conditioners have filters to trap dust and other pollutants in the air. Make sure to change or clean the filters regularly, following the instructions on the package.

Adjusting humidity: The humidity inside can affect the concentrations of some indoor air pollutants. For example, high humidity keeps the air moist and increases the likelihood of mold.

Keep indoor humidity between 30 and 50 percent. Use a moisture or humidity gauge, available at most hardware stores, to see if the humidity in your home is at a good level. To increase humidity, use a vaporizer or humidifier. To decrease humidity, open the windows if it is not humid outdoors. If it is warm, turn on the air conditioner or adjust the humidity setting on the humidifier.

Important tips that will help control indoor pollutants

- Test for radon and fix if there is a problem.
- Reduce asthma triggers such as mold and dust mites.
- Do not let people smoke indoors.
- Keep all areas clean and dry. Clean up any mold and get rid of excess water or moisture.
- Always ventilate when using products that can release pollutants into the air; if products must be stored following use, make sure to close tightly.
- Inspect fuel-burning appliances regularly for leaks, and make repairs when necessary.
- Consider installing a carbon monoxide alarm.



Remodeling old homes and building new homes

While remodeling or improving the energy efficiency of your home, steps should be taken to minimize pollution from sources inside the home, either from new materials or from disturbing materials already in the home. In addition, residents should be alert to signs of inadequate ventilation, such as stuffy air, moisture condensation on cold surfaces, or mold and mildew growth.

When building new homes, homebuyers today are increasingly concerned about the IAQ of their homes. Pollutants like mold, radon, carbon monoxide, and toxic chemicals have received greater attention than ever as poor IAQ has been linked to a host of health problems. To address these concerns, builders can employ a variety of construction practices and technologies to decrease the risk of poor IAQ in their new homes using the criteria from EPA's Indoor airPLUS as a guide.

To help ensure that you will have good IAQ in your new or remodeled home:

- Ask about including radon-reducing features.
- Provide proper drainage and seal foundations in new construction.
- Consider installing a mechanical ventilation system. Mechanical ventilation systems introduce fresh air using ducts and fans, instead of relying on holes or cracks in the walls and windows.
- When installing new appliances (like furnaces) make sure they are installed properly with a good vent or flue.

Schools

With nearly 56 million people, or 20 percent of the U.S. population, spending their days inside elementary and secondary schools, IAQ problems can be a significant concern. All types of schools—whether new or old, big or small, elementary or high school—can experience IAQ problems. School districts are increasingly experiencing budget shortfalls and many are in poor condition, leading to a host of IAQ problems.

- EPA's voluntary *Indoor Air Quality Tools for Schools* Program provides district-based guidance to schools about best practices, industry guidelines, and practical management actions to help school personnel identify, solve, and prevent IAQ problems.
- Children may be more sensitive to pollution, and children with asthma are especially sensitive. Asthma is responsible for millions of missed school days each year. Parents' and caregivers' involvement helps daycare facilities become aware of asthma triggers and the need to reduce them.



Office Buildings



Many office buildings have poor IAQ because of pollution sources and poorly designed, maintained, or operated ventilation systems.

- Office workers help to improve the indoor air in their buildings by paying attention to environmental conditions including ventilation, temperature, and the presence of odors. Report any problems to facility managers immediately.
- To improve IAQ, be careful not to block air vents or grilles, keep your space clean and dry, and do not bring in products that may pollute the indoor air.

Unfold this brochure to find a poster that tells you how to improve the air you breathe in your home.

www.epa.gov/iaq

Take Action to Improve Air Quality in Every Room

Asthma is a serious, sometimes life-threatening respiratory disease that affects the quality of life for millions of Americans.

Environmental asthma triggers: are found around the home and can be eliminated with simple steps.

- Don't allow smoking in your home or car.
- Dust and clean your home regularly.
- Clean up mold and fix water leaks.
- Wash sheets and blankets weekly in hot water.
- Use allergen-proof mattress and pillow covers.
- Keep pets out of the bedroom and off soft furniture.
- Control pests—close up cracks and crevices and seal leaks; don't leave food out.

Children are especially sensitive to secondhand smoke, which can trigger asthma and other respiratory illnesses.

Secondhand smoke: smoke comes from burning tobacco products such as cigarettes, pipes, and cigars.

- To help protect children from secondhand smoke, do not smoke or allow others to smoke inside your home or car.

Radon is the second leading cause of lung cancer.

Radon gas: enters your home through cracks and openings in floors and walls in contact with the ground.

- Test your home with a do-it-yourself radon kit. If the test result indicates you should fix, call a qualified radon mitigation specialist.
- Ask your builder about including radon-reducing features in your new home at the time of construction.

Mold can lead to allergic reactions, asthma, and other respiratory ailments.

Mold: can grow anywhere there is moisture in a house.

- The key to mold control is moisture control.
- If mold is a problem in your home, you should clean up the mold promptly and fix the water problem.
- It is important to dry water-damaged areas and items within 24–48 hours to prevent mold growth.

VOCs cause eye, nose, and throat irritation, headaches, nausea, and can damage the liver, kidney, and central nervous system.

Volatile organic compounds (VOCs): are chemicals that evaporate at room temperature. VOCs are emitted by a wide array of products used in homes including paints and lacquers, paint strippers, varnishes, cleaning supplies, air fresheners, pesticides, building materials, and furnishings. VOCs are released from products into the home both during use and while stored.

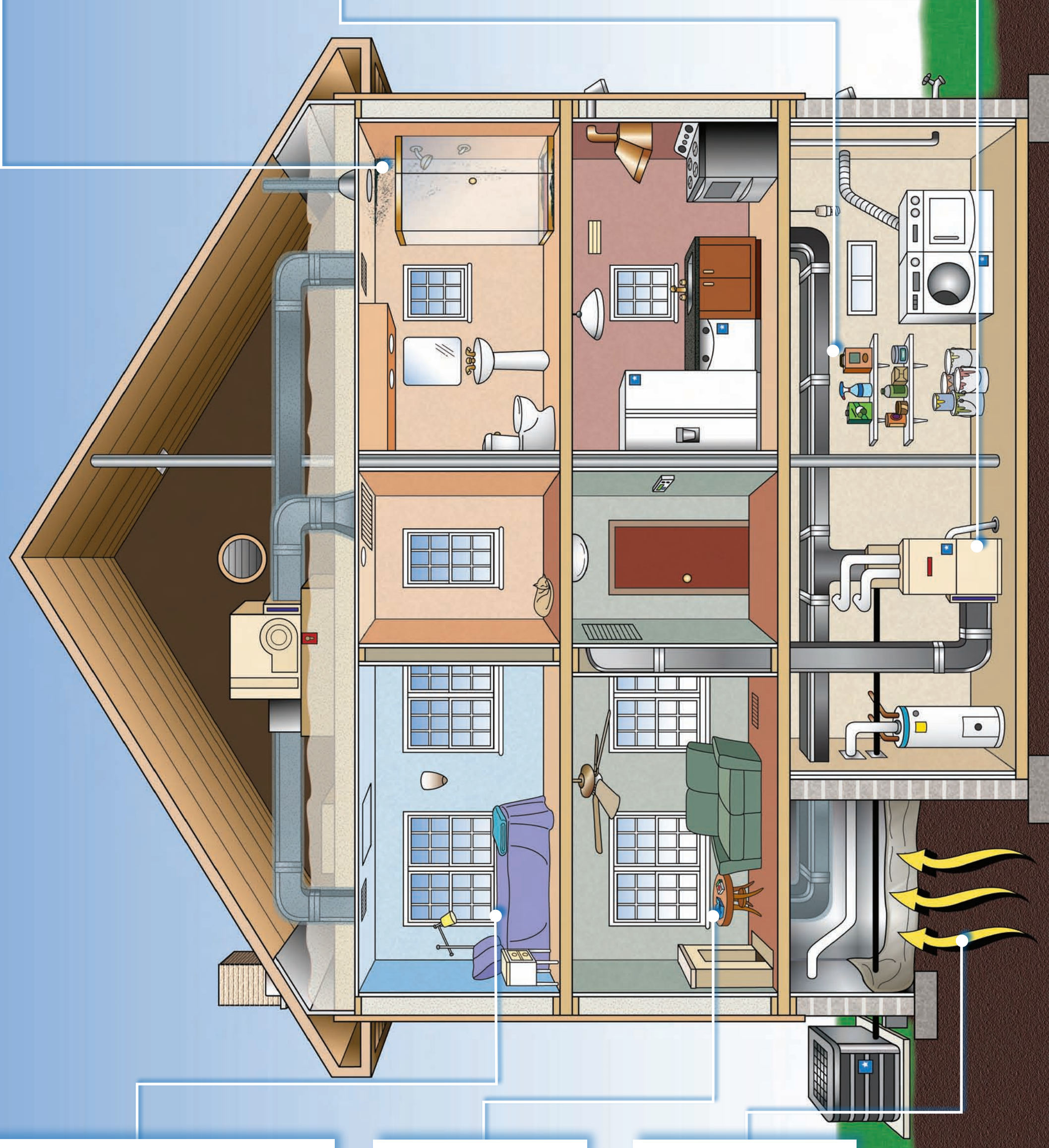
- Read and follow all directions and warnings on common household products.
- Make sure there is plenty of fresh air and ventilation (e.g., opening windows and using extra fans) when painting, remodeling, or using other products that may release VOCs.
- Never mix products, such as household cleaners, unless directed to do so on the label.
- Store household products that contain chemicals according to manufacturers' instructions.
- Keep all products away from children!

Carbon monoxide causes headaches, dizziness, disorientation, nausea and fatigue, and high levels can be fatal.

Nitrogen dioxide causes eyes, nose, and throat irritation, impairs lung function, and increases respiratory infections.

Sources include: indoor use of furnaces, gas stoves, unvented kerosene and gas space heaters, leaking chimneys, and tobacco products.

- Ventilate rooms where fuel-burning appliances are used.
- Use appliances that vent to the outside whenever possible.
- Ensure that all fuel-burning appliances are properly installed, used, adjusted, and maintained.



Visit www.epa.gov/iaq



A BRIEF GUIDE TO
MOLD,
MOISTURE,
AND
YOUR HOME

**This Guide provides
information and guidance
for homeowners and
renters on how to clean
up residential mold
problems and how to
prevent mold growth.**

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A BRIEF GUIDE TO MOLD, MOISTURE, AND YOUR HOME

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MOLD BASICS

- The key to mold control is moisture control.
- If mold is a problem in your home, you should clean up the mold promptly *and* fix the water problem.
- It is important to dry water-damaged areas and items within 24-48 hours to prevent mold growth.

Why is mold growing in my home? Molds are part of the natural environment. Outdoors, molds play a part in nature by breaking down dead organic matter such as fallen leaves and dead trees, but indoors, mold growth should be avoided. Molds reproduce by means of tiny spores; the spores are invisible to the naked eye and float through outdoor and indoor air. Mold may begin growing indoors when mold spores land on surfaces that are wet. There are many types of mold, and none of them will grow without water or moisture.



Mold growing outdoors on firewood. Molds come in many colors; both white and black molds are shown here.

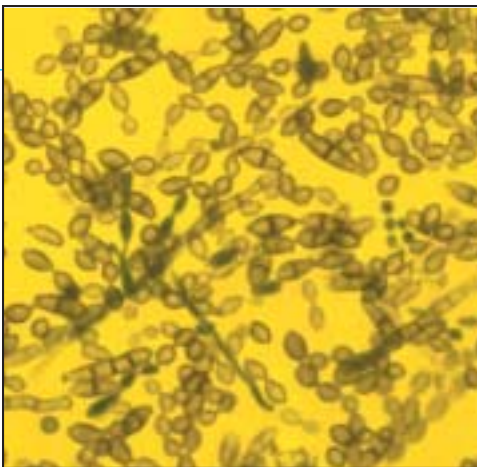
Can mold cause health problems? Molds are usually not a problem indoors, unless mold spores land on a wet or damp spot and begin growing. Molds have the potential to cause health problems. Molds produce allergens (substances that can cause allergic reactions), irritants, and in some cases, potentially toxic substances (mycotoxins).

Inhaling or touching mold or mold spores may cause allergic reactions in sensitive individuals. Allergic responses include hay fever-type symptoms, such as sneezing, runny nose, red eyes, and skin rash (dermatitis). Allergic reactions to mold are common. They can be immediate or delayed. Molds can also cause asthma attacks in people with asthma who are allergic to mold. In addition, mold exposure can irritate the eyes, skin, nose, throat, and lungs of both mold-

allergic and non-allergic people. Symptoms other than the allergic and irritant types are not commonly reported as a result of inhaling mold.

Research on mold and health effects is ongoing. This brochure provides a brief overview; it does not describe all potential health effects related to mold exposure. For more detailed information consult a health professional. You may also wish to consult your state or local health department.

How do I get rid of mold? It is impossible to get rid of all mold and mold spores indoors; some mold spores will be found floating through the air and in house dust. The mold spores will not grow if moisture is not present. Indoor mold growth can and should be prevented or controlled by controlling moisture indoors. If there is mold growth in your home, you must clean up the mold **and** fix the water problem. If you clean up the mold, but don't fix the water problem, then, most likely, the mold problem will come back.



Molds can gradually destroy the things they grow on. You can prevent damage to your home and furnishings, save money, and avoid potential health problems by controlling moisture and eliminating mold growth.

Magnified mold spores.

MOLD

CLEANUP



Leaky window – mold is beginning to rot the wooden frame and windowsill.

If you already have a mold problem – **ACT QUICKLY.**

Mold damages what it grows on. The longer it grows, the more damage it can cause.

Who should do the cleanup? Who should do the cleanup depends on a number of factors. One consideration is the size of the mold problem. If the moldy area is less than about 10 square feet (less than roughly a 3 ft. by 3 ft. patch), in most cases, you can handle the job yourself, following the guidelines below. However:

- If there has been a lot of water damage, and/or mold growth covers more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide: *Mold Remediation in Schools and Commercial Buildings*. Although focused on schools and commercial

buildings, this document is applicable to other building types. It is available free by calling the EPA Indoor Air Quality Information Clearinghouse at (800) 438-4318, or on the Internet at: www.epa.gov/iaq/molds/mold_remediation.html.

- If you choose to hire a contractor (or other professional service provider) to do the cleanup, make sure the contractor has experience cleaning up mold. Check references and ask the contractor to follow the recommendations in EPA's *Mold Remediation in Schools and Commercial Buildings*, the guidelines of the American Conference of Governmental Industrial Hygienists (ACGIH), or other guidelines from professional or government organizations.
- If you suspect that the heating/ventilation/air conditioning (HVAC) system may be contaminated with mold (it is part of an identified moisture problem, for instance, or there is mold near the intake to the system), consult EPA's guide *Should You Have the Air Ducts in Your Home Cleaned?* before taking further action. Do not run the HVAC system if you know or suspect that it is contaminated with mold - it could spread mold throughout the building. Visit www.epa.gov/iaq/pubs/airduct.html, or call (800) 438-4318 for a free copy.
- If the water and/or mold damage was caused by sewage or other contaminated water, then call in a professional who has experience cleaning and fixing buildings damaged by contaminated water.
- If you have health concerns, consult a health professional before starting cleanup.

MOLD CLEANUP GUIDELINES

BATHROOM TIP

Places that are often or always damp can be hard to maintain completely free of mold. If there's some mold in the shower or elsewhere in the bathroom that seems to reappear, increasing the ventilation (running a fan or opening a window) and cleaning more frequently will usually prevent mold from recurring, or at least keep the mold to a minimum.



Tips and techniques The tips and techniques presented in this section will help you clean up your mold problem. Professional cleaners or remediators may use methods not covered in this publication. Please note that mold may cause staining and cosmetic damage. It may not be possible to clean an item so that its original appearance is restored.

- Fix plumbing leaks and other water problems as soon as possible. Dry all items completely.
- Scrub mold off hard surfaces with detergent and water, and dry completely.

Mold growing on the underside of a plastic lawnchair in an area where rainwater drips through and deposits organic material.



Mold growing on a piece of ceiling tile.



- Absorbent or porous materials, such as ceiling tiles and carpet, may have to be thrown away if they become moldy. Mold can grow on or fill in the empty spaces and crevices of porous materials, so the mold may be difficult or impossible to remove completely.
- Avoid exposing yourself or others to mold (see discussions: **What to Wear When Cleaning Moldy Areas** and **Hidden Mold**.)
- Do not paint or caulk moldy surfaces. Clean up the mold and dry the surfaces before painting. Paint applied over moldy surfaces is likely to peel.
- If you are unsure about how to clean an item, or if the item is expensive or of sentimental value, you may wish to consult a specialist. Specialists in furniture repair, restoration, painting, art restoration and conservation, carpet and rug cleaning, water damage, and fire or water restoration are commonly listed in phone books. Be sure to ask for and check references. Look for specialists who are affiliated with professional organizations.

WHAT TO WEAR WHEN

CLEANING MOLDY AREAS



Mold growing on a suitcase stored in a humid basement.

It is important
to take
precautions to
**LIMIT
YOUR
EXPOSURE**
to mold and
mold spores.

- **Avoid breathing in mold or mold spores.** In order to limit your exposure to airborne mold, you may want to wear an N-95 respirator, available at many hardware stores and from companies that advertise on the Internet. (They cost about \$12 to \$25.) Some N-95 respirators resemble a paper dust mask with a nozzle on the front, others are made primarily of plastic or rubber and have removable cartridges that trap most of the mold spores from entering. In order to be effective, the respirator or mask must fit properly, so carefully follow the instructions supplied with the respirator. Please note that the Occupational Safety and Health Administration (OSHA) requires that respirators fit properly (fit testing) when used in an occupational setting; consult OSHA for more information (800-321-OSHA or osha.gov/).

- **Wear gloves.** Long gloves that extend to the middle of the forearm are recommended. When working with water and a mild detergent, ordinary household rubber gloves may be used. If you are using a disinfectant, a biocide such as chlorine bleach, or a strong cleaning solution, you should select gloves made from natural rubber, neoprene, nitrile, polyurethane, or PVC (see **Cleanup and Biocides**). Avoid touching mold or moldy items with your bare hands.

- **Wear goggles.** Goggles that do not have ventilation holes are recommended. Avoid getting mold or mold spores in your eyes.



Cleaning while wearing N-95 respirator, gloves, and goggles.

How do I know when the remediation or cleanup is finished?

You must have completely fixed the water or moisture problem before the cleanup or remediation can be considered finished.

- You should have completed mold removal. Visible mold and moldy odors should not be present. Please note that mold may cause staining and cosmetic damage.
- You should have revisited the site(s) shortly after cleanup and it should show no signs of water damage or mold growth.
- People should have been able to occupy or re-occupy the area without health complaints or physical symptoms.
- Ultimately, this is a judgment call; there is no easy answer. If you have concerns or questions call the EPA Indoor Air Quality Information Clearinghouse at (800) 438-4318.

MOISTURE AND MOLD **PREVENTION** AND CONTROL TIPS

MOISTURE

Control is the Key to

Mold Control



Mold growing on the surface of a unit ventilator.

- When water leaks or spills occur indoors - **ACT QUICKLY.** If wet or damp materials or areas are dried 24-48 hours after a leak or spill happens, in most cases mold will not grow.

- Clean and repair roof gutters regularly.
- Make sure the ground slopes away from the building foundation, so that water does not enter or collect around the foundation.
- Keep air conditioning drip pans clean and the drain lines unobstructed and flowing properly.



Condensation on the inside of a windowpane.

- Keep indoor humidity low. If possible, keep indoor humidity below 60 percent (ideally between 30 and 50 percent) relative humidity. Relative humidity can be measured with a moisture or humidity meter, a small, inexpensive (\$10-\$50) instrument available at many hardware stores.

- If you see condensation or moisture collecting on windows, walls or pipes - ACT QUICKLY to dry the wet surface and reduce the moisture/water source. Condensation can be a sign of high humidity.

Actions that will help to reduce humidity:

- ◆ Vent appliances that produce moisture, such as clothes dryers, stoves, and kerosene heaters to the outside where possible. (Combustion appliances such as stoves and kerosene heaters produce water vapor and will increase the humidity unless vented to the outside.)
- ◆ Use air conditioners and/or de-humidifiers when needed.
- ◆ Run the bathroom fan or open the window when showering. Use exhaust fans or open windows whenever cooking, running the dishwasher or dishwashing, etc.

Actions that will help prevent condensation:

- ◆ Reduce the humidity (see preceding page).
- ◆ Increase ventilation or air movement by opening doors and/or windows, when practical. Use fans as needed.
- ◆ Cover cold surfaces, such as cold water pipes, with insulation.
- ◆ Increase air temperature.

Mold growing on a wooden headboard in a room with high humidity.



Renters: Report all plumbing leaks and moisture problems immediately to your building owner, manager, or superintendent. In cases where persistent water problems are not addressed, you may want to contact local, state, or federal health or housing authorities.



Rust is an indicator that condensation occurs on this drainpipe. The pipe should be insulated to prevent condensation.

Testing or sampling for mold Is sampling for mold needed? **In most cases, if visible mold growth is present, sampling is unnecessary.** Since no EPA or other federal limits have been set for mold or mold spores, sampling cannot be used to check a building's compliance with federal mold standards. Surface sampling may be useful to determine if an

area has been adequately cleaned or remediated. Sampling for mold should be conducted by professionals who have specific experience in designing mold sampling protocols, sampling methods, and interpreting results. Sample analysis should follow analytical methods recommended by the American Industrial Hygiene Association (AIHA), the American Conference of Governmental Industrial Hygienists (ACGIH), or other professional organizations.

HIDDEN MOLD

Mold growing on the back side of wallpaper.



Suspicion of hidden mold You may suspect hidden mold if a building smells moldy, but you cannot see the source, or if you know there has been water damage and residents are reporting health problems. Mold may be hidden in places such as the back side of dry wall, wallpaper, or paneling, the top side of ceiling tiles, the underside of carpets and pads, etc. Other possible locations of hidden mold include areas inside walls around pipes (with leaking or condensing pipes), the surface of walls behind furniture (where condensation forms), inside ductwork, and in roof materials above ceiling tiles (due to roof leaks or insufficient insulation).

Investigating hidden mold problems Investigating hidden mold problems may be difficult and will require caution when the investigation involves disturbing potential sites of mold growth. For example, removal of wallpaper can lead to a massive release of spores if there is mold growing on the underside of the paper. If you believe that you may have a hidden mold problem, consider hiring an experienced professional.

Cleanup and Biocides Biocides are substances that can destroy living organisms. The use of a chemical or biocide that kills organisms such as mold (chlorine bleach, for example) is not recommended as a routine practice during mold cleanup. There may be instances, however, when professional judgment may indicate its use (for example, when immune-compromised individuals are present). In most cases, it is not possible or desirable to sterilize an area; a background level of mold spores will remain - these spores will not grow if the moisture problem has been resolved. If you choose to use disinfectants or biocides, always ventilate the area and exhaust the air to the outdoors. Never mix chlorine bleach solution with other cleaning solutions or detergents that contain ammonia because toxic fumes could be produced.

Please note: Dead mold may still cause allergic reactions in some people, so it is not enough to simply kill the mold, it must also be removed.

Water stain on a basement wall — locate and fix the source of the water promptly.



ADDITIONAL RESOURCES

For more information on mold related issues including mold cleanup and moisture control/condensation/humidity issues, you can call the EPA Indoor Air Quality Information Clearinghouse at

(800) 438-4318.

Or visit:

www.epa.gov/iaq/molds



Mold growing on fallen leaves.

This document is available on the Environmental Protection Agency, Indoor Environments Division website at: www.epa.gov/iaq/molds/moldguide.html



A Citizen's Guide to Radon

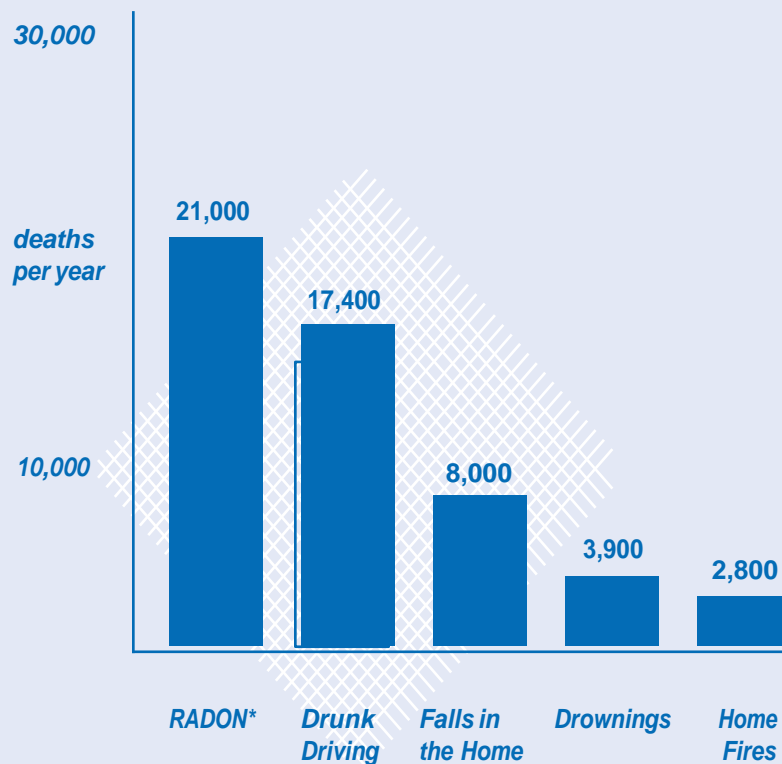
The Guide to Protecting
Yourself and Your Family from
Radon



EPA Recommends:

- ▼ **Test your home for radon—it's easy and inexpensive.**
- ▼ **Fix your home if your radon level is 4 picocuries per liter (pCi/L) or higher.**
- ▼ **Radon levels less than 4 pCi/L still pose a risk, and in many cases may be reduced.**

Radon is estimated to cause thousands of lung cancer deaths in the U.S. each year.



*Radon is estimated to cause about 21,000 lung cancer deaths per year, according to EPA's 2003 Assessment of Risks from Radon in Homes (EPA 402-R-03-003). The numbers of deaths from other causes are taken from the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury Prevention and Control Report and 2002 National Safety Council Reports.

OVERVIEW

Radon is a cancer-causing, radioactive gas.

You can't see radon. And you can't smell it or taste it. But it may be a problem in your home.

Radon is estimated to cause many thousands of deaths each year. That's because when you breathe air containing radon, you can get lung cancer. In fact, the Surgeon General has warned that radon is the second leading cause of lung cancer in the United States today. Only smoking causes more lung cancer deaths. **If you smoke and your home has high radon levels, your risk of lung cancer is especially high.**

Radon can be found all over the U.S.

Radon comes from the natural (radioactive) breakdown of uranium in soil, rock and water and gets into the air you breathe. Radon can be found all over the U.S. It can get into any type of building—homes, offices, and schools—and result in a high indoor radon level. But you and your family are most likely to get your greatest exposure at home, where you spend most of your time.

You should test for radon.

Testing is the only way to know if you and your family are at risk from radon. EPA and the Surgeon General recommend testing all homes below the third floor for radon. EPA also recommends testing in schools.

Testing is inexpensive and easy—it should only take a few minutes of your time. Millions of Americans have already tested their homes for radon (see page 5).

You can fix a radon problem.

Radon reduction systems work and they are not too costly. Some radon reduction systems can reduce radon levels in your home by up to 99%. Even very high levels can be reduced to acceptable levels.

New homes can be built with radon-resistant features.

Radon-resistant construction techniques can be effective in preventing radon entry. When installed properly and completely, these simple and inexpensive techniques can help reduce indoor radon levels in homes. In addition, installing them at the time of construction makes it easier and less expensive to reduce radon levels further if these passive techniques don't reduce radon levels to below 4 pCi/L.

Every new home should be tested after occupancy, even if it was built radon-resistant. If radon levels are still in excess of 4 pCi/L, the passive system should be activated by having a qualified mitigator install a vent fan. For more explanation of radon resistant construction techniques, refer to EPA publication, *Building Radon Out: A Step-by-Step Guide on How to Build Radon-Resistant Homes* (see page 15).

HOW DOES RADON GET INTO YOUR HOME?

Any home may have a radon problem.

Radon is a radioactive gas. It comes from the natural decay of uranium that is found in nearly all soils. It typically moves up through the ground to the air above and into your home through cracks and other holes in the foundation. Your home traps radon inside, where it can build up. Any home may have a radon problem. This means new and old homes, well-sealed and drafty homes, and homes with or without basements.

Radon from soil gas is the main cause of radon problems. Sometimes radon enters the home through well water (see page 8). In a small number of homes, the building materials can give off radon, too. However, building

RADON GETS IN THROUGH:

1. Cracks in solid floors.
2. Construction joints.
3. Cracks in walls.
4. Gaps in suspended floors.
5. Gaps around service pipes.
6. Cavities inside walls.
7. The water supply.



materials rarely cause radon problems by themselves.

Nearly 1 out of every 15 homes in the U.S. is estimated to have elevated radon levels. Elevated levels of radon gas have been found in homes in your state. Contact your state radon office (<https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information>) for general information about radon in your area. While radon problems may be more common in some areas, any home may have a problem. The only way to know about your home is to test.

Radon can also be a problem in schools and workplaces. Ask your state radon office (www.epa.gov/radon/wherelive.html) about radon problems in schools, daycare and childcare facilities, and workplaces in your area (also visit <https://www.epa.gov/radon>).

HOW TO TEST YOUR HOME

You can't see radon, but it's not hard to find out if you have a radon problem in your home. All you need to do is test for radon. Testing is easy and should only take a few minutes of your time.

The amount of radon in the air is measured in "picocuries per liter of air," or "pCi/L." There are many kinds of low-cost "do it yourself" radon test kits you can get through the mail and in some hardware stores and other retail outlets. If you prefer, or if you are buying or selling a home, you can hire a qualified tester to do the testing for you. You should first contact your state radon office about obtaining a list of qualified testers. You can also contact a private radon proficiency program for lists of privately certified radon professionals serving your area. For links and more information, visit <https://www.epa.gov/radon/find-radon-test-kit-or-measurement-and-mitigation-professional>.

There are Two General Ways to Test for Radon:

SHORT-TERM TESTING:

The quickest way to test is with short-term tests. Short-term tests remain in your home for two days to 90 days, depending on the device. "Charcoal canisters," "alpha track," "electret ion chamber," "continuous monitors," and "charcoal liquid scintillation" detectors are most commonly used for short-term testing. Because radon levels tend to vary from day to day and season to season, a short-term test is less likely than a long-term test to tell you your year-round average radon level. If you need results quickly, however, a short-term test followed by a second short-term test may be used to decide whether to fix your home (see also page 7 under Home Sales).

LONG-TERM TESTING:

Long-term tests remain in your home for more than 90 days. "Alpha track" and "electret" detectors are commonly used for this type of testing. A long-term test will give you a reading that is more likely to tell you your home's year-round average radon level than a short-term test.

How To Use a Test Kit:

Follow the instructions that come with your test kit. If you are doing a short-term test, close your windows and outside doors and keep them closed as much as possible during the test. Heating and air conditioning system fans that re-circulate air may be operated. Do not operate fans or other machines which bring in air from outside. Fans that are part of a radon-reduction system or small exhaust fans operating only for short periods of time may run during the test. If you are doing a short-term test lasting just 2 or 3 days, be sure to close your windows and outside doors at least 12 hours **before** beginning the test, too. You should not conduct

**Testing is easy
and should only
take a few
minutes of
your time.**

HOW TO TEST YOUR HOME *continued*

short-term tests lasting just 2 or 3 days during unusually severe storms or periods of unusually high winds. The test kit should be placed in the lowest lived-in level of the home (for example, the basement if it is frequently used, otherwise the first floor). It should be put in a room that is used regularly (like a living room, playroom, den, or bedroom) but **not** your kitchen or bathroom. Place the kit at least 20 inches above the floor in a location where it won't be disturbed—away from drafts, high heat, high humidity, and exterior walls. Leave the kit in place for as long as the package says. Once you've finished the test, reseal the package and send it to the lab specified on the package right away for analysis. You should receive your test results within a few weeks.

EPA Recommends the Following Testing Steps:

Step 1. *Take a short-term test. If your result is 4 pCi/L or higher, take a follow-up test (Step 2) to be sure.*

Step 2. *Follow up with either a long-term test or a second short-term test:*

- *For a better understanding of your year-round average radon level, take a long-term test.*
- *If you need results quickly, take a second short-term test.*

The higher your initial short-term test result, the more certain you can be that you should take a short-term rather than a long-term follow up test. If your first short-term test result is more than twice EPA's 4 pCi/L action level, you should take a second short-term test immediately.

Step 3. • *If you followed up with a long-term test: Fix your home if your long-term test result is 4 pCi/L or more.*

- *If you followed up with a second short-term test: The higher your short-term results, the more certain you can be that you should fix your home. Consider fixing your home if the average of your first and second test is 4 pCi/L or higher (see also page 7 under Home Sales).*



WHAT YOUR TEST RESULTS MEAN

The average indoor radon level is estimated to be about 1.3 pCi/L, and about 0.4 pCi/L of radon is normally found in the outside air. The U.S. Congress has set a long-term goal that indoor radon levels be no more than outdoor levels. While this goal is not yet technologically achievable in all cases, most homes today *can* be reduced to 2 pCi/L or below.

Sometimes short-term tests are less definitive about whether or not your home is above 4 pCi/L. This can happen when your results are close to 4 pCi/L. For example, if the average of your two short-term test results is 4.1 pCi/L, there is about a 50% chance that your year-round average is somewhat below 4 pCi/L. However, EPA believes that any radon exposure carries some risk—no level of radon is safe. Even radon levels below 4 pCi/L pose some risk, and you can reduce your risk of lung cancer by lowering your radon level.

If your living patterns change and you begin occupying a lower level of your home (such as a basement) you should retest your home on that level.

Even if your test result is below 4 pCi/L, you may want to test again sometime in the future.

Test your home now and save your results. If you find high radon levels, fix your home before you decide to sell it.

RADON AND HOME SALES

More and more, home buyers and renters are asking about radon levels before they buy or rent a home. Because real estate sales happen quickly, there is often little time to deal with radon and other issues. The best thing to do is to test for radon NOW and save the results in case the buyer is interested in them. Fix a problem if it exists so it won't complicate your home sale. If you are planning to move, review EPA's pamphlet "Home Buyer's and Seller's Guide to Radon," which addresses some common questions (<https://www.epa.gov/radon/home-buyers-and-sellers-guide-radon>). You can also use the results of two short-term tests done side-by-side (four inches apart) to decide whether to fix your home.

During home sales:

- *Buyers often ask if a home has been tested, and if elevated levels were reduced.*
- *Buyers frequently want tests made by someone who is not involved in the home sale. Your state radon office (<https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information>) can assist you in identifying a qualified tester.*
- *Buyers might want to know the radon levels in areas of the home (like a basement they plan to finish that the seller might not otherwise test.*

Today many homes are built to help prevent radon from coming in. Building codes in your state or local area may require these radon-resistant construction features. If you are buying or renting a new home, ask the owner or builder if it has radon-resistant features. The EPA recommends building new homes with radon-resistant features in high radon potential (Zone 1) areas. Even if built radon-resistant, every new home should be tested for radon after occupancy. If you have a test result of 4 pCi/L or more, consult a qualified mitigator (<http://www.epa.gov/radon/find-radon-test-kit-or-measurement-and-mitigation-professional#who>) to estimate the cost of upgrading to an active system by adding a vent fan to reduce the radon level. In an existing home, the cost to install a radon mitigation system is about the same as for other common home repairs.

RADON IN WATER

There are two main sources for the radon in your home's indoor air, the soil and the water supply. Compared to radon entering the home through water, radon entering your home through the soil is usually a much larger risk.

The radon in your water supply poses an inhalation risk and an ingestion risk. Research has shown that your risk of lung cancer from breathing radon in air is much larger than your risk of stomach cancer from swallowing water with radon in it. Most of your risk from radon in water comes from radon released into the air when water is used for showering and other household purposes.

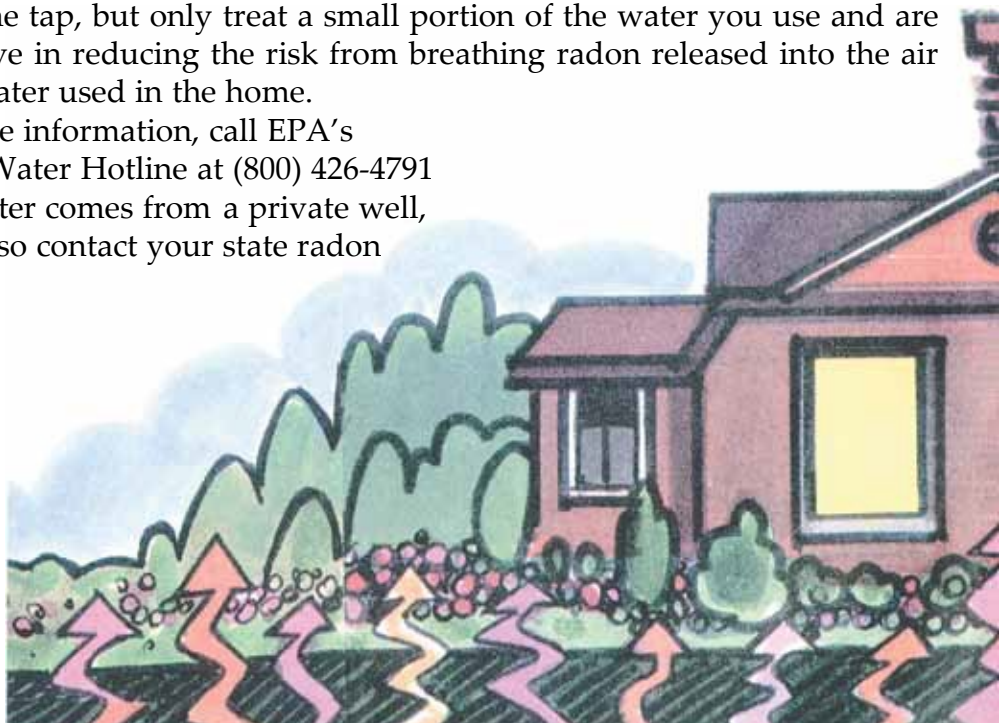
Radon in your home's water is not usually a problem when its source is surface water. A radon in water problem is more likely when its source is ground water, e.g., a private well or a public water supply system that uses ground water. If you are concerned that radon may be entering your home through the water and your water comes from a public water supply, contact your water supplier.

If you've tested your private well and have a radon in water problem, it can be fixed. Your home's water supply can be treated in two ways. Point-of-entry treatment can effectively remove radon from the water before it enters your home. Point-of-use treatment devices remove radon from your water at the tap, but only treat a small portion of the water you use and are not effective in reducing the risk from breathing radon released into the air from all water used in the home.

For more information, call EPA's Drinking Water Hotline at (800) 426-4791. If your water comes from a private well, you can also contact your state radon office.



If you've tested the air in your home and found a radon problem, and your water comes from a well, have your water tested.



HOW TO LOWER THE RADON LEVEL IN YOUR HOME

Since there is no known safe level of radon, there can always be some risk. But the risk can be reduced by lowering the radon level in your home.

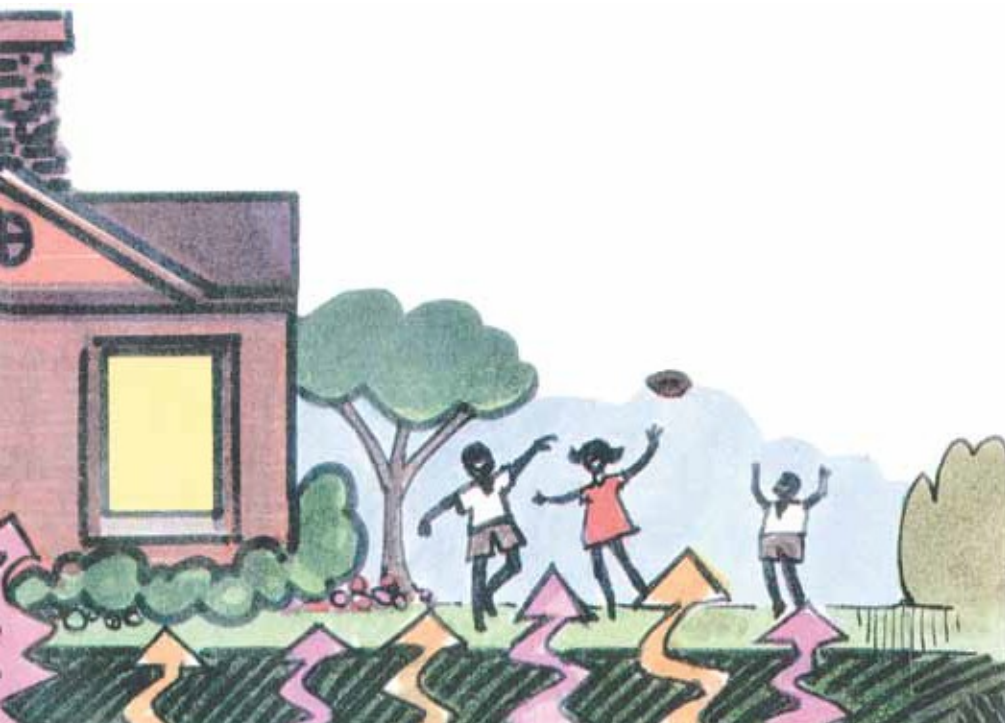
There are several proven methods to reduce radon in your home, but the one primarily used is a vent pipe system and fan, which pulls radon from beneath the house and vents it to the outside. This system, known as a soil suction radon reduction system, does not require major changes to your home. Sealing foundation cracks and other openings makes this kind of system more effective and cost-efficient. Similar systems can also be installed in houses with crawl spaces. Radon contractors can use other methods that may also work in your home. The right system depends on the design of your home and other factors.

Ways to reduce radon in your home are discussed in EPA's *Consumer's Guide to Radon Reduction*. You can get a copy at –about-radon <https://www.epa.gov/radon/publications-about-radon>.

The cost of reducing radon in your home depends on how your home was built and the extent of the radon problem. Most homes can be fixed for about the same cost as other common home repairs. The cost to fix can vary widely; consult with your state radon office or get one or more estimates from qualified mitigators. The cost is much less if a passive system was installed during construction.

RADON AND HOME RENOVATIONS

If you are planning any major structural renovation, such as converting an unfinished basement area into living space, it is especially important to test the area for radon before you begin the renovation. If your test results indicate a radon problem, radon-resistant techniques can be inexpensively included as part of the renovation. Because major renovations can change the level of radon in any home, always test again after work is completed.



HOW TO LOWER THE RADON LEVEL IN YOUR HOME *continued*

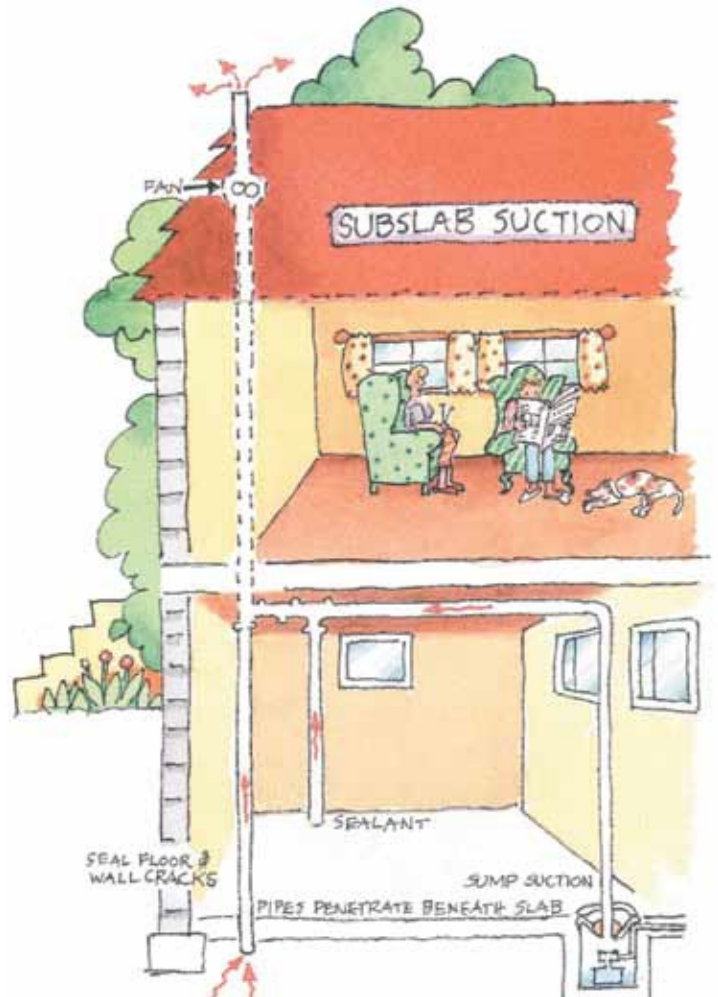
Most homes can be fixed for about the same cost as other common home repairs.

Lowering high radon levels requires technical knowledge and special skills. You should use a contractor who is trained to fix radon problems. A qualified contractor can study the radon problem in your home and help you pick the right treatment method.

Check with your state radon office for names of qualified or state certified radon contractors in your area. You can also contact private radon proficiency programs for lists of privately certified radon professionals in your area. For more information on private radon proficiency programs, visit <https://www.epa.gov/radon/find-radon-test-kit-or-measurement-and-mitigation-professional>. Picking someone to fix your radon problem is much like choosing a contractor for other home repairs—you may want to get references and more than one estimate.

If you are considering fixing your home's radon problem yourself, you should first contact your state radon office for guidance and assistance (<https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information>).

You should also test your home again after it is fixed to be sure that radon levels have been reduced. Most soil suction radon reduction systems include a monitor that will indicate whether the system is operating properly. In addition, it's a good idea to retest your home every two years to be sure radon levels remain low.



Note: This diagram is a composite view of several mitigation options. The typical mitigation system usually has only one pipe penetration through the basement floor; the pipe may also be installed on the outside of the house.

THE RISK OF LIVING WITH RADON

Radon gas decays into radioactive particles that can get trapped in your lungs when you breathe. As they break down further, these particles release small bursts of energy. This can damage lung tissue and lead to lung cancer over the course of your lifetime. Not everyone exposed to elevated levels of radon will develop lung cancer. And the amount of time between exposure and the onset of the disease may be many years.

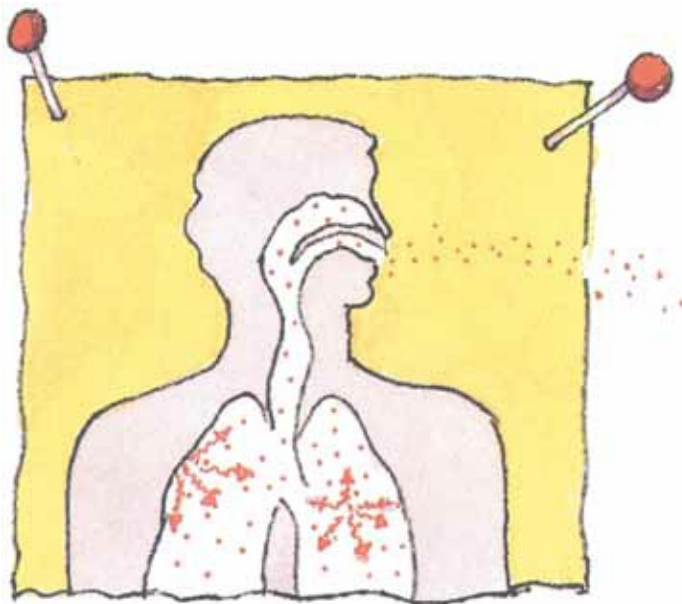
Like other environmental pollutants, there is some uncertainty about the magnitude of radon health risks. However, we know more about radon risks than risks from most other cancer-causing substances. This is because estimates of radon risks are based on studies of cancer in humans (underground miners).

Smoking combined with radon is an especially serious health risk. Stop smoking and lower your radon level to reduce your lung cancer risk.

Children have been reported to have greater risk than adults of certain types of cancer from radiation, but there are currently no conclusive data on whether children are at greater risk than adults from radon.

Your chances of getting lung cancer from radon depend mostly on:

- *How much radon is in your home*
- *The amount of time you spend in your home*
- *Whether you are a smoker or have ever smoked*



Scientists are more certain about radon risks than risks from most other cancer-causing substances.

RADON RISK IF YOU SMOKE

Radon Level	If 1,000 people who smoked were exposed to this level over a lifetime*...	The risk of cancer from radon exposure compares to**...	WHAT TO DO: Stop Smoking and...
20 pCi/L	About 260 people could get lung cancer	↳ 250 times the risk of drowning	Fix your home
10 pCi/L	About 150 people could get lung cancer	↳ 200 times the risk of dying in a home fire	Fix your home
8 pCi/L	About 120 people could get lung cancer	↳ 30 times the risk of dying in a fall	Fix your home
4 pCi/L	About 62 people could get lung cancer	↳ 5 times the risk of dying in a car crash	Fix your home
2 pCi/L	About 32 people could get lung cancer	↳ 6 times the risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	About 20 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	

Note: If you are a former smoker, your risk may be lower.

It's never too late to reduce your risk of lung cancer. Don't wait to test and fix a radon problem. If you are a smoker, stop smoking.

RADON RISK IF YOU'VE NEVER SMOKED

Radon Level	If 1,000 people who never smoked were exposed to this level over a lifetime*...	The risk of cancer from radon exposure compares to**...	WHAT TO DO:
20 pCi/L	About 36 people could get lung cancer	↳ 35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	↳ 20 times the risk of dying in a home fire	Fix your home
8 pCi/L	About 15 people could get lung cancer	↳ 4 times the risk of dying in a fall	Fix your home
4 pCi/L	About 7 people could get lung cancer	↳ The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	↳ The risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult)
0.4 pCi/L		(Average outdoor radon level)	

Note: If you are a former smoker, your risk may be higher.

*Lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003).

**Comparison data calculated using the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury Prevention and Control Reports.

RADON MYTHS AND FACTS

MYTH: Scientists aren't sure radon really is a problem.

FACT: Although some scientists dispute the precise number of deaths due to radon, all major health organizations (like the Centers for Disease Control, the American Lung Association and the American Medical Association) agree with estimates that radon causes thousands of preventable lung cancer deaths every year. This is especially true among smokers, since the risk to smokers is much greater than to non-smokers.

MYTH: Radon testing is difficult, time consuming and expensive.

FACT: Radon testing is easy. You can test your home yourself or hire a qualified radon test company. Either approach takes only a small amount of time and effort.

MYTH: Homes with radon problems can't be fixed.

FACT: There are simple solutions to radon problems in homes. Hundreds of thousands of homeowners have already fixed radon problems in their homes. Most homes can be fixed for about the same cost as other common home repairs; check with one or more qualified mitigators. Call your state radon office (www.epa.gov/radon/wheretheyoulive.html) for help in identifying qualified mitigation contractors.

MYTH: Radon only affects certain kinds of homes.

FACT: House construction can affect radon levels. However, radon can be a problem in homes of all types: old homes, new homes, drafty homes, insulated homes, homes with basements, homes without basements. Local geology, construction materials, and how the home was built are among the factors that can affect radon levels in homes.

MYTH: Radon is only a problem in certain parts of the country.

FACT: High radon levels have been found in every state. Radon problems do vary from area to area, but the only way to know your radon level is to test.

MYTH: A neighbor's test result is a good indication of whether your home has a problem.

FACT: It's not. Radon levels can vary greatly from home to home. The only way to know if your home has a radon problem is to test it.

RADON MYTHS AND FACTS *continued*

MYTH: Everyone should test their water for radon.

FACT: Although radon gets into some homes through water, it is important to first test the air in the home for radon. If your water comes from a public water system that uses ground water, call your water supplier. If high radon levels are found and the home has a private well, call the Safe Drinking Water Hotline at (800) 426-4791 for information on testing your water.

MYTH: It's difficult to sell homes where radon problems have been discovered.

FACT: Where radon problems have been fixed, home sales have not been blocked or frustrated. The added protection is sometimes a good selling point.

MYTH: I've lived in my home for so long, it doesn't make sense to take action now.

FACT: You will reduce your risk of lung cancer when you reduce radon levels, even if you've lived with a radon problem for a long time.

MYTH: Short-term tests can't be used for making a decision about whether to fix your home.

FACT: A short-term test followed by a second short-term test* can be used to decide whether to fix your home. However, the closer the average of your two short-term tests is to 4 pCi/L, the less certain you can be about whether your year-round average is above or below that level. Keep in mind that radon levels below 4 pCi/L still pose some risk. Radon levels can be reduced in most homes to 2 pCi/L or below.

**If the radon test is part of a real estate transaction, the result of two short-term tests can be used in deciding whether to mitigate. For more information, see EPA's "Home Buyer's and Seller's Guide to Radon."*

FOR FURTHER INFORMATION

EPA Radon Website

<https://www.epa.gov/radon>

EPA's radon page includes links to publications, hotlines, private proficiency programs and more.

Frequent Questions:

<https://iaq.zendesk.com/hc/en-us/sections/202349927>

Radon Hotlines

1-800-SOS-RADON (767-7236)*

Purchase radon test kits by phone.

1-800-55RADON (557-2366)*

Get live help for your radon questions.

1-800-644-6999*

Radon Fix-It Hotline. For general information on finding or reducing the radon level in your home.

1-866-528-3187*

Línea Directa de Información sobre Radón en Español. Hay operadores disponibles desde las 9:00 AM hasta las 5:00 PM para darle información sobre radón y como ordenar un kit para hacer la prueba de radón en su hogar.

1-800-426-4791

Safe Drinking Water Hotline. For general information on drinking water, radon in water, testing and treatment, and standards for radon in drinking water. Operated under a contract with EPA.

*Operated by Kansas State University in partnership with EPA.

EPA Regional Offices

<https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information>. Check the above website for a listing of your EPA regional office.

Ordering Radon Publications

Many EPA radon publications are available from <https://www.epa.gov/radon/publications-about-radon>

Radon publications may be ordered through the National Service Center for Environmental Publications (NSCEP) by calling 1-800-490-9198, by visiting the NSCEP website at <https://www.epa.gov/nscep> or by email at nscep@lmsolas.com.



Surgeon General Health Advisory

“Indoor radon is the second-leading cause of lung cancer in the United States and breathing it over prolonged periods can present a significant health risk to families all over the country. It’s important to know that this threat is completely preventable. Radon can be detected with a simple test and fixed through well-established venting techniques.”

January 2005

U.S. EPA Assessment of Risks from Radon in Homes

In June 2003, the EPA revised its risk estimates for radon exposure in homes. EPA estimates that about 21,000 annual lung cancer deaths are radon related. EPA also concluded that the effects of radon and cigarette smoking are synergistic, so that smokers are at higher risk from radon. EPA’s revised estimates are based on the National Academy of Sciences 1998 BEIR VI (Biological Effects of Ionizing Radiation) Report which concluded that radon is the second leading cause of lung cancer after smoking.



Indoor Environments Division (6609J)
EP 402/K-12/002 | May 2012 | www.epa.gov/radon

OFFICE OF HOUSING WEATHERIZATION & REPAIR PROGRAM COVID-19 SAFETY PLAN FOR CONTRACTORS

BACKGROUND

Gov. Jay Inslee has declared a state of emergency under the Stay Home, Stay Healthy proclamation and has prohibited non-essential business. Based on this proclamation the Washington state Department of Commerce interpreted low-income weatherization services to be non-essential and therefore requested all agencies suspend client services until it was safe for workers to go into residential homes. On March 25th, Gov. Inslee provided clarification on residential construction allowing some construction to happen, including “publicly financed low-income housing.” On April 24th, Gov. Inslee announced that certain low-risk construction projects can restart as long as they can comply with the COVID-19 Safety Plan for residential construction.

PLAN

The Office of Housing (OH) Weatherization and repair Program COVID-19 Safety Plan for Contractors includes all aspects of the [Phase 1 Construction Restart COVID-19 Job Site Requirements](#) plan issued by the WA Governor's office on April 24th as well as additional requirements of OH as outlined in this plan. Any updates or modifications to the [Phase 1 Construction Restart COVID-19 Job Site Requirements](#) will be immediately adopted as part of the OH weatherization and repair Program COVID-19 Safety Plan for Contractors. This plan will remain in place as long as the [“Stay Home, Stay Healthy” Gubernatorial Proclamation 20-25](#) is in effect or if adopted as rules by a federal, state or local regulatory agency.

Contractor Requirements

General

All contractors are also required to comply with the following COVID-19 worksite-specific safety practices, as outlined in Gov. Inslee's [“Stay Home, Stay Healthy” Proclamation 20-25](#), and in accordance with the [Washington State Department of Labor & Industries General Coronavirus Prevention Under Stay Home-Stay Healthy Order \(DOSH Directive 1.70\)](#), and the [Washington State Department of Health Workplace and Employer Resources & Recommendations](#).

Contractors shall develop and post at each job site a comprehensive COVID-19 exposure control, mitigation, and recovery plan. The plan must include policies regarding the following control measures: PPE utilization; on-site social distancing; hygiene; sanitation; symptom monitoring; incident reporting; site decontamination procedures; COVID-19 safety training; exposure response procedures; and a post-exposure incident project-wide recovery plan. A copy of the plan must be available on each job site during any construction activities and available for inspection by state and local authorities. Failure to meet posting requirements will result in sanctions, including the job being shut down.

A client's request to postpone any work performed (including audits/inspections) due to health safety concerns will be granted.

If the contractor, OH staff, or a client determines that specific measures on the scope of work cannot be accessed or completed according to these requirements, the contractor shall defer the identified measure(s) until they can be accessed and/or completed according to these requirements.

COVID-19 Site Supervisor

A site-specific COVID-19 Supervisor shall be designated by the contractor at every job site to monitor the health of employees and enforce the COVID-19 job site safety plan. A designated COVID-19 Supervisor must be present at all times during construction activities, except on single-family residential job sites with 6 or fewer people on the site.

Office Of Housing Weatherization & Repair Program Covid-19 Safety Plan For Contractors

COVID-19 Safety Training

1. A Safety Stand-Down/toolbox talk/tailgate training must be conducted on all job sites on the first day of returning to work, and weekly thereafter, to explain the protective measures in place for all workers. Social distancing must be maintained at all gatherings.
2. Attendance will be communicated verbally, and the trainer will sign in each attendee (**Exhibit A**).
3. COVID-19 safety requirements shall be visibly posted on each job site.

Social Distancing

1. Social distancing of at least 6 feet of separation must be maintained by every person on the worksite at all times.
 - a. Client communication will be performed via phone or video conferencing whenever possible.
 - b. Clients will be asked to separate themselves physically from the areas where employees are conducting work. This may mean staying outside or leaving the home while work is being performed inside the home and remaining inside the home while work is being performed outside the home.
2. Gatherings of any size must be precluded by taking breaks and lunch in shifts. Any time two or more persons must meet, ensure minimum 6 feet of separation.
3. Identify “choke points” and “high-risk areas” on job sites where workers typically congregate, and control locations so social distancing is always maintained.
4. Minimize interactions when picking up or delivering equipment or materials, ensuring minimum 6-foot separation.
5. To the extent practical allow only one trade/subcontractor at a time on a job site and maintain 6-foot separation social distancing for each member of that trade. If more than one trade/subcontractor must be on the job to complete the job, then at a minimum all trades and subcontractors must maintain social distancing policies in accordance with this guidance.

Personal Protective Equipment (PPE) – Employer Provided

1. Provide personal protective equipment (PPE) such as gloves, goggles, face shields and face masks as appropriate, or required, for the activity being performed.
2. Masks, in accordance with Washington Department of Health guidelines, or as required by Washington Department of Labor & Industries (L&I) safety rules, must be worn at all times by every employee on the worksite.
3. Eye protection must be worn at all times by every employee while on worksite.
4. Gloves must be worn at all times by every employee while on worksite. The type of glove worn should be appropriate to the task. If gloves are not typically required for the task, then any type of glove is acceptable, including latex gloves.
5. If appropriate PPE cannot be provided, the worksite must be shut down.

Sanitation and Cleanliness

1. Soap and running water shall be abundantly provided on all job sites for frequent handwashing. Workers should be encouraged to leave their workstations to wash their hands regularly, before and after going to the bathroom, before and after eating and after coughing, sneezing or blowing their nose.
2. When running water is not available, portable washing stations, with soap, are required, per WAC 296-155-140 2(a) – (f). Alcohol-based hand sanitizers with greater than 60% ethanol or 70% isopropanol can also be used but are not a replacement for the water requirement.

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3. Post (See Exhibit B), in areas visible to all workers, required hygienic practices, including not touching face with unwashed hands or with gloves; washing hands often with soap and water for at least 20 seconds; using hand sanitizer with at least 60% alcohol; cleaning and disinfecting frequently touched objects and surfaces such as workstations, keyboards, telephones, handrails, machines, shared tools, elevator control buttons, and doorknobs; and covering mouth and nose when coughing or sneezing as well as other hygienic recommendations by the U.S. Centers for Disease Control (CDC).
4. Make disinfectants available to workers throughout the worksite and ensure cleaning supplies are frequently replenished.
5. Frequently clean and disinfect high-touch surfaces on job sites and in offices, such as shared tools, machines, vehicles and other equipment, handrails, doorknobs, and portable toilets. If these areas cannot be cleaned and disinfected frequently, the job site shall be shut down until such measures can be achieved and maintained.
6. When the worksite is an occupied home, workers should sanitize work areas upon arrival, throughout the workday and immediately before they leave, and occupants should keep a personal distance of at least 10 feet.
7. If an employee reports feeling sick and goes home, the area where that person worked should be immediately disinfected.

Employee Health/Symptoms

1. Create policies (**Exhibit C**) which encourage workers to stay home or leave the worksite when feeling sick or when they have been in close contact with a confirmed positive case. If they develop symptoms of acute respiratory illness, they must seek medical attention and inform their employer.
2. Have employees inform their supervisors if they have a sick family member at home with COVID-19. If an employee has a family member sick with COVID-19, that employee must follow the isolation/quarantine requirements as established by the State Department of Health.
3. Screen all workers at the beginning of their shift by taking their temperature and asking if they have a fever, cough, shortness of breath, fatigue, muscle aches, or new loss of taste or smell (**Exhibit D**). Thermometers used shall be 'no touch' or 'no contact' to the greatest extent possible. If a 'no touch' or 'no contact' thermometer is not available, the thermometer must be properly sanitized between each use. Any worker with a temperature of 100.4°F or higher is considered to have a fever and must be sent home.
 - a. Contractors are encouraged to check in/screen clients prior to arriving at the home to ensure they do not have any COVID-19 symptoms (fever over 100.4°F, cough, shortness of breath, fatigue, muscle aches, or new loss of taste or smell).
4. Instruct workers to report to their supervisor if they develop symptoms of COVID-19 (e.g., fever, cough, shortness of breath, fatigue, muscle aches, or new loss of taste or smell). If symptoms develop during a shift, the worker should be immediately sent home. If symptoms develop while the worker is not working, the worker should not return to work until they have been evaluated by a healthcare provider.
5. Failure of employees to comply will result in employees being sent home during the emergency actions.
6. Employees who do not believe it is safe to work shall be allowed to remove themselves from the worksite, and employers must follow the expanded family and medical leave requirements included in the Families First Coronavirus Response Act or allow the worker to use unemployment benefits, paid time off, or any other form of paid leave available to the worker at the worker's discretion.

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- 7. Any worker coming to work on a construction site in Washington from any state that is not contiguous to Washington must self-quarantine for 14 days to become eligible to work on a job site in Washington.
- 8. If an employee is confirmed to have COVID-19 infection, employers should inform fellow employees of their possible exposure to COVID-19 in the workplace but maintain confidentiality as required by the Americans with Disabilities Act (ADA). The employer should instruct fellow employees about how to proceed based on the CDC Public Health Recommendations for Community-Related Exposure.

Job Site Visitors

A daily attendance log (**Exhibit E**) of all workers and visitors must be kept and retained for at least four weeks. The log must include the name, phone number, and email address of all workers and visitors.

All contractors are encouraged to self-monitor worker compliance with these requirements. (**Exhibit F**) is a simple checklist that can be used to show compliance.

Use of exhibits are not required as part of this plan but are provided as samples of signs and documents that a contractor may potentially use to be in compliance.

No job site may operate until the contractor can meet and maintain all requirements listed in this plan. The contractor, by signing below, hereby agrees to comply with The Office of Housing weatherization and repair Program COVID-19 Safety Plan for Contractors while completing jobs/scopes of work for The Office of Housing.

CONTRACTOR

Contractor Name

Name (printed)

Title

Signature

Date

CITY OF SEATTLE

HomeWise Weatherization Program

Personnel	Title	Desk Phone	e-mail
Bill terKuile	Property Rehabilitation Specialist	206-615-1710	Bill.terKuile@Seattle.gov
Bobby Lindsay	HomeWise Interim Program Manager	206-684-0241	Bobby.Lindsay@Seattle.gov
Carl Raben	Property Rehab Supervisor	206-733-9192	Carl.Raben@Seattle.gov
Joe Anderton	Property Rehabilitation Specialist	206-684-0341	Joseph.Anderton@Seattle.gov
Sherri Anderson	Program Analyst	206-684-0255	Sherri.Anderson@Seattle.gov
Theresa Cortez	Administrative Assistant	206-684-0244	Theresa.Cortez@seattle.gov

Other Programs for Seattle area and Local Residents

Program Type	Agency	Description	Phone Number	Service Territory	Homeowners or Renters
HOME REPAIR RESOURCES					
Home Repair Loans	Seattle Office of Housing	No or low interest loans to help pay for the cost of critical home repairs such as side sewers, roof replacement/repair, asbestos abatement and electrical and plumbing work.	206-684-0458	Seattle only	Homeowners
Home Repair Loans & Grants	King County	0% loans and emergency grants for critical home repairs such as side sewers, roof replacement/repair, asbestos abatement and electrical and plumbing work.	206-263-9095	King County except for Seattle	Homeowners only, except accessibility modification for renters with disabilities
Home Repair Program	Rebuilding Together Seattle	Free home repair services for critical home repairs. Possible replacement refrigerators with a used refrigerators (call for availability).	206-682-1231	Everett to SeaTac, along the I-5 corridor and select other areas. Call for more information.	Homeowners
Home Repair Grants and Loans	Habitat for Humanity Seattle-King County	Loans or grants to pay for mostly exterior repairs such as roof replacement and repair and siding repair.	206-855-5214	Renton, South Seattle, Federal Way, White Center	Homeowners
Minor Home Repair	Sound Generations	Low cost repair services for small plumbing, electrical, carpentry and accessibility needs for seniors, disabled and low-income households	206-448-5751	Seattle, Bellevue and Shoreline	Homeowners
Minor Home Repair	City of Renton		425-430-6650	Renton	Homeowners
Minor Home Repair	City of SeaTac		206-973-4815	SeaTac	Homeowners
Minor Home Repair	City of Shoreline		206-448-5751	Shoreline	Homeowners
Minor Home Repair	City of Tukwila		206-433-7180	Tukwila	Homeowners
Weatherization	King County Housing Authority		Free weatherization upgrades for low-income homeowners and renters.	206-214-1240	King County except for Seattle
Vermiculite & Asbestos Abatement reimbursement	ZAI Trust	Homeowners can be reimbursed for a portion of the cost to remove attic insulation with vermiculite.	1-844-924-2255	Seattle & King County	Homeowners

Other Programs for Seattle area and Local Residents

Program Type	Agency	Description	Phone Number	Service Territory	Homeowners or Renters
Free Water-Saving Toilets	Minor Home Repair	Free installation of new water-saving toilet and recycling of old toilets. New water savings showerheads, faucet aerators installed as needed.	206-448-5751	Seattle Public Utility Customers	Homeowners
Rebate Programs	Seattle City Light (SCL)	Rebates for energy efficient washing machines, clothes dryer, or heat pump water heaters.	206-684-3800	SCL service area	Homeowners & Renters
AGING AND DISABILITY RESOURCES					
Community Connections Hotline	Aging and Disability Services	Resource line for issues related to aging and disability.	206-962-8467	Seattle & King County	Homeowners & Renters
Volunteer Services	Catholic Community Services	Free services to help seniors and people with disabilities remain in the homes, including housework and clearing. May be able to help if cleaning is needed before weatherization work can be done.	206-328-5696	Seattle & King County	Homeowners & Renters
PROPERTY TAX ASSISTANCE					
Property Tax Exemption & Deferral	King County	Property tax exemption and deferrals for low-income seniors and disabled persons.	206-296-0100	Seattle & King County	Homeowners
UTILITY BILL ASSISTANCE					
Utility Discount Program	Seattle City Light and Seattle Public Utilities	Up to a 60% discount on utility bills	206-684-0268	Seattle Public Utility and Seattle City Light customers	Homeowners & Renters
Energy assistance	Byrd Barr Place, South Multi-Service Center or Hopelink.	Financial assistance to help pay for heating costs.	Centerstone 1-206-812-4940 or 1-800-348-7144 appointment line	Seattle & King County	Homeowners & Renters
Emergency Energy Assistance	Seattle City Light	Up to \$200 of assistance to customers that have received an "urgent" or "shut-off" notice on balances of \$250 or more.	206-684-3688	Seattle City Light Customers	Homeowners & Renters
Project SHARE	Seattle City Light	Available to customers that have participated in Emergency Assistance and Emergency Energy Assistance. Can pay between \$250-\$500 towards electricity bill.	(206) 684-3000	Seattle City Light Customers	Homeowners & Renters

Other Programs for Seattle area and Local Residents

Program Type	Agency	Description	Phone Number	Service Territory	Homeowners or Renters
Emergency Water Assistance Program	Seattle Public Utilities	If water service has been disconnected or at risk of being disconnected, assistance to reduce 50% of unpaid utility bill, up to \$392.	206-684-5800	Seattle Public Utilities Customers	Homeowners & Renters
Free dump pick-up or waivers	Seattle Public Utilities	Special rate, backyard pickup or waiver.	206-684-0268	Utility Discount Program customers only	Homeowners & Renters
RENTER RESOURCES					
Rental Assistance	Rental Assistance	Funding for renters who are dealing with back rent, facing an end to other rent subsidies, or dealing with unsafe housing situations.	2-1-1 or 800-894-4663	Seattle	Renters
Code Compliance Enforcement	Seattle Department of Construction & Inspections	Call with questions about an eviction notice, conditions at your property or general questions about landlord/tenant laws.	(206) 615-0808	Seattle	Renters
Tenant Rights Counseling	Seattle Tenants Union	Provides empowerment-based tenant counseling, education and assistance to help tenants learn their rights and take action to resolve housing problems.	206-723-0500 or 206-615-0808	Seattle & King County	Renters
Rental Apartment Search	Affordable Housing Search	Free independent rental housing search tool for Washington State	877-428-8844	Seattle & King County	Renters
HOMEOWNER RESOURCES					
Resources for first-time homebuyers	Seattle Office of Housing	Down payment assistance and other resources for first-time homebuyers. http://www.seattle.gov/housing/renters/buy-a-home#downpaymenteligibility	206-684-0247	Seattle	Renters
Foreclosure Prevention and Homeowner Resources	Homeownership Resource Center	The Homeownership Resource Center provides financial and mortgage counseling, assistance in working with lenders, and stabilization loans to help prevent foreclosures for income-qualified homeowners. http://www.seattle.gov/housing/homeowners/foreclosure-prevention	877-894-4663	Seattle & King County	Homeowners

Other Programs for Seattle area and Local Residents

Program Type	Agency	Description	Phone Number	Service Territory	Homeowners or Renters
Garbage Collection Carts-to-Curb Help	Seattle Public Utilities	<p>If your garbage is collected at the curb or alley, you can pay an additional fee to have it collected from your backyard. If you have disabilities and qualify for an exemption, you can get backyard collection at curbside rates.</p> <p>http://www.seattle.gov/util/MyServices/Garbage/HouseResidentsGarbage/CartstoCurbHelp/index.htm</p>	(206) 684-3000	Seattle	Homeowners