



United States
Environmental
Protection
Agency



United States
Consumer
Product Safety
Commission



United
States
Depart
ment of
Housing
and
Urban
Develop
ment

January 2020

Before 1978?

Homes constructed prior to 1978 often contain **lead-based paint**. Lead found in paint, dust, or paint chips can create significant health risks.

Read this entire brochure to learn:

- Ways lead can enter the body
- The impact of lead on health
- Steps you can take to keep your family safe
- Resources for additional information

Federal regulations require certain actions before leasing or purchasing a home or apartment built prior to 1978:

- Property owners are required to share any known details about lead-based paint or related hazards prior to the sale of a home.
- Contracts for home sales must contain a designated lead-based paint warning. Buyers are allowed up to 10 days to conduct a lead inspection.
- Landlords are required to disclose any known details about lead-based paint or potential hazards before the lease begins. Additionally, leases must include a clear warning regarding lead-based paint.

If you are planning renovations, repairs, or painting (RRP) in a home or apartment built before 1978

- Review the EPA's brochure, The Lead-Safe Certified Guide to Renovate Right, to understand the proper lead-safe procedures contractors must follow when working in your home (refer to page 12).



from Lead Hazards

If you suspect that your home contains lead-based paint:

- Avoid attempting to remove lead-based paint on your own.
- Maintain painted areas in good condition to prevent wear and tear.
- Have your home inspected for lead hazards by a certified professional. You can find one at epa.gov/lead.
- Contact your landlord if there are areas with peeling or flaking paint that need attention.
- Regularly clean floors, window sills, and other surfaces.
- Take steps to prevent exposure to lead dust during renovation projects.
- When renovating, repairing, or painting, make sure to hire a Lead-Safe certified company approved by the EPA or your state.
- Before purchasing, leasing, or renovating, have your home inspected for lead-based paint.
- Talk to your healthcare provider about getting your children tested for lead. A pediatrician can easily perform a blood test to check for lead levels.
- Regularly clean your children's hands, bottles, pacifiers, and toys.

- Ensure your children have a nutritious diet with foods rich in iron, calcium, and vitamin C, while low in fat.
- Remove shoes or clean off dirt from shoes before coming into your home.

Adults and children can be exposed to lead in the following ways:

- Breathing in lead dust, especially during activities like remodeling, repairs, or painting that disturb painted surfaces.
- Ingesting lead dust that has settled on food, cooking areas, or other surfaces.
- Consuming paint chips or soil contaminated with lead.

Lead poses a particularly high risk to children younger than six years old.

- During this stage, children's developing brains and nervous systems are more vulnerable to the harmful effects of lead.
- Children's developing bodies tend to absorb higher amounts of 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 understand that lead exposure can harm a developing fetus.

- Women with elevated lead levels before or during

pregnancy may transfer lead to the fetus through the placenta during development.

Lead can impact the body in various ways. Even low levels of lead exposure can severely harm children.

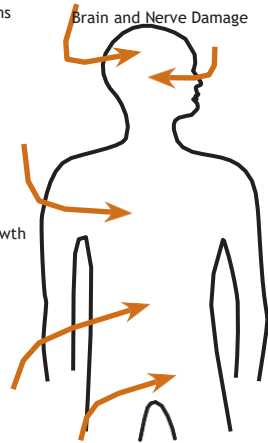
In children, exposure to lead can cause:

- 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

Hearing Problems

Brain and Nerve Damage

Slowed Growth



Digestive Problems

Reproductive Problems
(Adults)

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.

While children are more vulnerable to lead exposure, it can also pose risks to adults.

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

If you suspect your home contains lead, have both your children and the property tested.

Blood lead levels in children typically rise quickly between 6 to 12 months of age, with the highest levels usually occurring around 18 to 24 months.

Speak with your healthcare provider about testing your children for lead. A quick blood test can identify lead exposure. Blood lead tests are typically advised for:

- Children at ages 1 and 2
- Children or other household members who may have been exposed to significant amounts of lead
- Children who are recommended for testing according to your state's or local health screening guidelines.

Your healthcare provider can interpret the test results and advise if additional testing is necessary.

Typically, the older your home or daycare center, the higher the chance it contains lead-based paint.¹

Many homes and childcare facilities built before 1978 may have lead-based paint.. The federal government prohibited the use of lead-based paint in consumer products starting in 1978.²

Find out how to identify lead-based paint on page 7.

Lead can be present in various locations, including:

- Homes and childcare facilities in urban, rural, or suburban areas,
- Both private and public single-family houses and apartments,
- On the interior and exterior surfaces of the home, and
- In the soil surrounding the home, which may contain lead from exterior paint or other sources, like the previous use of leaded gasoline in vehicles

Learn more about where lead is found at [epa.gov/lead](https://www.epa.gov/lead).

¹The federal government defines "lead-based paint" as paint that contains lead at levels equal to or exceeding 1.0 milligram per square centimeter (mg/cm²), or more than 0.5% by weight.

²The federal government defines "lead-containing paint" as paint with lead levels exceeding 90 parts per million (ppm) by weight in newly dried paint.

Hazards

Damaged lead-based paint (peeling, chipping, cracking, or chalking) poses a risk and requires prompt action. **Lead-based paint** can also be dangerous when found on areas that children may chew on or high-traffic surfaces, such as:

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

Lead-based paint typically doesn't pose a risk if it remains in good condition

and is not located in areas subject to impact or friction, such as windows.

Lead dust can be generated when lead-based paint is disturbed by activities such as scraping, sanding, or heated. It can also form when painted surfaces containing lead come into contact with each other. Lead dust and paint chips can land on surfaces and objects that people touch. When the home is cleaned, vacuumed, or swept, or when people walk through the area, the settled lead dust can become airborne again. The EPA has set specific levels of lead in dust that are considered hazardous.

- Levels of 10 micrograms per square foot ($\mu\text{g}/\text{ft}^2$) or more on floors, including those covered with carpet, are considered hazardous
- 100 $\mu\text{g}/\text{ft}^2$ and higher for interior window sills

Lead in soil can pose a risk, especially when children play in uncovered soil or when soil is tracked into the home on footwear. The EPA defines certain lead levels in soil as

hazardous, including:

- Lead levels of 400 ppm or higher in bare soil play areas are hazardous
- 1,200 ppm or more of lead in yard soil is hazardous

Both visible lead paint chips and invisible lead dust can pose serious risks.

The only way to determine if lead hazards are present in paint, dust, or soil is to have your home tested through various methods:

- 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 identifies whether there are present lead hazards in your home stemming from paint, dust, or soil. It also provides guidance on steps to reduce or eliminate those risks. This evaluation is conducted by a certified professional known as a risk assessor, who will:
 - Collect samples of chipping or peeling paint on surfaces like doors, windows, floors, stairs, and walls
 - Take dust samples from areas close to painted surfaces, as well as soil samples from exposed ground outdoors
 - Submit these samples for laboratory testing to identify potential lead contamination
- A combined inspection and risk evaluation will identify the presence of lead-based paint in your home, determine if any lead-related hazards exist, and show where each is located.



Make sure to review the report you receive after your inspection or risk evaluation. If anything is unclear, don't hesitate to ask for clarification.

When getting ready to do renovation, repair, or painting in a home built before 1978, certified professionals trained in lead-safe practices may take the following steps:

- Collect paint chip samples from the area scheduled for renovation and submit them to a laboratory approved by the EPA to test for lead content. In federally assisted housing, the individual performing this task must be certified as a lead-based paint inspector or risk assessor
- Utilize test kits approved by the EPA to check for the absence of lead-based paint, except when working in homes that receive federal housing assistance
- Assume lead-based paint exists and follow safety procedures designed to minimize exposure during work

Various state and national programs help ensure lead testing is conducted properly and safely. For more details, reach out to your local or state agency, visit the EPA's website at epa.gov/lead, or call 1-800-424-5323 to find contacts in your region ³

If you think your home may have lead-based paint risks, there are immediate actions you can take to lower your family's exposure

- Notify your landlord about peeling or chipping paint.
- Clean painted surfaces regularly to remove dust. Wipe down floors, window frames, sills, and other areas weekly with a mop or sponge, warm water, and an all-purpose cleaner. (Avoid mixing ammonia and bleach, as it can create harmful gas.)
- Promptly clean up paint chips with caution, ensuring no dust is created.
- Frequently rinse sponges and mop heads while cleaning dusty or soiled areas, and again once you're done.
- Make sure to wash your hands and your children's hands regularly, particularly before meals and before naps or bedtime.
- Regularly clean play areas, as well as bottles, pacifiers, toys, and stuffed animals.
- Frequently sanitize play areas, along with bottles, pacifiers, toys, and plush animals.
- **When undertaking renovations, repairs, or painting, make sure to hire renovation companies that are certified by the EPA or state as Lead-Safe (refer to page 12).**
- Take off or clean your shoes before entering your home to prevent bringing in lead from the soil.
- Ensure children have a balanced diet rich in iron and calcium, like spinach and dairy, as they absorb less lead when properly nourished.

Improperly disturbing or removing lead paint can make your home more dangerous by spreading additional lead dust throughout the living space.



- 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- lead-contaminated soil. These actions are not permanent solutions and will need ongoing attention.
- To reduce the risk of lead exposure during renovation, repair, or painting projects, consider hiring a professional certified by the EPA or your state who is trained in lead-safe methods. If you plan to do the work yourself, make sure to educate yourself on how to follow lead-safe practices at home.
- For a lasting solution to lead hazards, it's important to hire a certified lead abatement professional. **Abatement involves permanently getting rid of the danger by methods such as removing, sealing off, or covering lead-based paint using specialized materials. Simply painting over the area with standard paint does not provide a permanent fix.**

Make sure to hire a certified professional who has been properly trained to handle lead hazards safely.

- For any renovation, repair, or painting (RRP) work that involves disturbing painted surfaces, hire a firm certified in lead-safe practices (refer to page 12).

- To permanently fix lead hazards, it's best to hire a certified lead abatement contractor. This guarantees the contractor is trained in safe procedures and has the right tools to perform a complete and proper cleanup.

Certified contractors use trained personnel and adhere to safety regulations established by state or federal authorities.

If lead abatement has been performed in your home or if the property is receiving federal aid, thorough dust cleanup must be carried out after the work is finished. This continues until clearance testing confirms that lead dust levels fall below the required limits:

- 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 window sills
- 400 $\mu\text{g}/\text{ft}^2$ for window troughs

Lead-Based Paint

If you hire a contractor for renovation, repair, or painting (RRP) work in a pre-1978 home or childcare facility (like a preschool or kindergarten), the contractor is required to:

- The contractor must be a Lead-Safe Certified firm recognized by the EPA or an EPA-approved state program
- Employ trained and certified Lead-Safe renovators who adhere to proper lead-safe practices to avoid lead contamination
- Supply a copy of the EPA's lead hazard information brochure, The Lead-Safe Certified Guide to Renovate Right



Contractors performing RRP work in pre-1978 homes and childcare facilities are required to follow lead-safe procedures that:

- **Contain the work area.** The work area must be sealed off to prevent dust and debris from spreading. Warning signs should be posted, and plastic or another impermeable material, along with tape, must be used to secure the area.
- **Steer clear of renovation techniques that produce significant quantities of lead-contaminated dust.** Some methods produce excessive lead-contaminated dust and are banned. These include:
 - 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.** Clean the work area daily, and use special methods to clean once the project is finished.
- **Dispose of waste properly.** Place waste in a strong bag or sheeting and seal it. When transporting, ensure the waste is securely contained to avoid dust and debris from escaping.

Lead in Drinking Water

Lead in drinking water most often comes from lead pipes, faucets, and fixtures.

Older cities and homes built before 1986 are more likely to have lead pipes.

Lead in drinking water cannot be detected by smell or taste. To be sure if your drinking water contains lead, get it tested.

Keep in mind that older homes with private wells may also have plumbing materials that include lead.

Key Actions You Can Take to Lower Lead Levels in Drinking Water

- Always use cold water for drinking, cooking, and preparing baby formula. Keep in mind that boiling water does not eliminate lead.
- Before drinking, flush your pipes by running the faucet, taking a shower, doing laundry, or washing dishes.
- Regularly clean your faucet's screen (also known as an aerator).
- If you're using a filter certified to remove lead, make sure to follow the instructions on when to replace the cartridge. Continuing to use an expired filter can reduce its effectiveness at removing lead.

Reach out to your water utility to find out if the service line that connects your home to the water main is made of lead. They can also provide details about the lead levels in your drinking water supply.

- **Lead smelter** facilities or other industries that emit lead into the atmosphere.
- **Your job.** If you're working with lead, it's possible to bring it home on your clothes or skin. Make sure to shower and change clothes before returning home. Wash your work clothes separately from the rest of the household's laundry.
- **Hobbies** involving lead, like pottery making, stained glass crafting, or furniture refinishing. Contact your local health department for guidance on hobbies that may involve lead.
- Vintage **toys** and **furniture** might have been coated with lead-based paint. Older toys and children's items could contain parts made with lead.⁴
- Food and beverages prepared or stored in **lead crystal**, **lead-glazed pottery**, or porcelain may contain lead.
- Folk remedies, such as "**greta**" and "**azarcon**," **are** used to treat an upset stomach.

The National Lead Resource Center

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

EPA's Safe Drinking Water Hotline

For information about lead in drinking water, visit epa.gov/safewater for information about lead in drinking water.

Hotline for the Consumer Product Safety Commission (CPSC). For details on lead in toys and other consumer goods, or to report a hazardous product or related injury, visit CPSC's website at cpsc.gov or saferproducts.gov.

Local and State Health and Environmental Agencies

Certain states, tribes, and cities have their own regulations regarding lead-based paint. Contact your local agency to determine which laws apply to you. Most agencies can also assist with locating a lead abatement company in your area and provide information on financial assistance for addressing lead hazards. For the most current contact details for state or local resources, visit epa.gov/lead, or reach out to the National Lead Information Center

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

The EPA's mission is to safeguard human health and the environment. Your local EPA office can offer additional details about regulations and programs for lead protection.

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

Commission for Consumer Product Safety (CPSC)

The CPSC works to safeguard the public from unreasonable risks of injury caused by consumer products through education, setting safety standards, and enforcement. Reach out to the CPSC for more details on 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 goal is to foster resilient, inclusive communities and provide quality, affordable housing for everyone. Contact the Office of Lead Hazard Control and Healthy Homes for more information on the Lead Safe Housing Rule, which safeguards families in pre-1978 assisted housing, as well as details on 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!

Improperly managed lead from paint, dust, and soil in and around your home can pose serious risks

- Young children, especially those under 6, are the most vulnerable to lead poisoning in your home."
- Let me know if you need any further changes.
- Lead exposure can be harmful to infants and young children, even during pregnancy.
- Buildings built before 1978, including homes, schools, and daycare centers, may have lead-based paint.
- Healthy-looking children may still have harmful levels of lead in their bodies.
- Damaging lead-painted surfaces or improperly removing lead-based paint can pose a risk to your family.
- Lead can enter the body through inhaling or swallowing lead dust, or by consuming soil or paint chips that contain lead.
- There are various ways to minimize lead risks.

Typically, lead-based paint that remains in good condition does not pose a danger (see page 10).